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THE UNIVERSITY OF HONG KONG

COOPERATIVE RELATIONSHIP IN PARTNERING APPROACH

A DISSERTATION SUBMITTED TO
THE FACULTY OF ARCHITECTURE
IN CANDIDACY FOR THE DEGREE OF
BACHELOR OF SCIENCE IN SURVEYING

DEPARTMENT OF REAL ESTATE AND CONSTRUCTION

BY
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Declaration

I declare that this dissertation represents my own work, except where due acknowledgment is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to another institution for a degree, diploma or other qualification.

SIGNED:_____
NAME:_____
DATE:_____

Acknowledgment

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These are all that I can express my thanks in term of words. I believe that the heartfelt thanks cannot be fully expressed in term of words. It must be felt by heart. I hope my immense gratitude can transfer to their heart.

Abstract

It is a common view in Hong Kong construction industry that an adversarial relationship is the result of the inherent conflict between the clients' costs and the contractors' profits. It is assumed to be a zero-sum game in which one party's gain is the result of the other party's loss. For example, there is a common view that the contract is drafted for the interest of the clients. And the contractors have a claim strategy. Both sides of parties intend to gain more interest from the opposite side. As a result, it leads to a lose-lose situation.

The partnering is highly valued as a solution to the adversarial culture by development of inter-firm cooperation (ACTIVE 1996). Through the cooperation between construction parties, the project performance in term of time, cost and quality is continuously improved. Extensive partnering tool is developed to 'engineer' the inter-firm cooperation.

There are lots of empirical studies and case studies proofed or showed that the project performance in term of time, cost and quality is actually improved by implementing partnering approach (Baker 1990, Bennett and Jayes 1996, Larson 1997, Mosley and Moore 1994, T. Eckert 1994, Weston and Gibson 1993). And the improvement in the project performance is concluded to be the successful of the implementation of the partnering approach. However the most valued benefit of the partnering is the building up of the inter-firm cooperative relationship. It is the main reason of the partnering to be considered as the solution of the adversarial culture in the construction industry. The core substance of the partnering approach should be the building up of inter-firm cooperative relationship. If the substance is not improved, the benefits which are recognized only can be considered as 'side-effects'. Therefore the aim of this dissertation is to investigate the inter-firm cooperative relationship of partnering projects and non-partnering projects.

This dissertation gives an interesting result which is that "There is no significant difference in cooperative relationship in term of trust level and commitment level between the formal partnering category, informal partnering category and non-partnering

category". And it also suggests that the formal partnering may not change the behaviors of the construction practitioners.

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1. Introduction

1.1 Background of Research

It is believed that the introduction of partnering can help to loose the adversarial relationship in the construction industry. When the partnering approach is implemented in a construction project, a cooperative environment can be created in the industry. It leads to a win-win situation. From the literature (Baker 1990, Bennett and Jayes 1996, Larson 1997, Mosley and Moore 1994, T. Eckert 1994, Weston and Gibson 1993), there are lots of research concerning about the improvement in the project performance and benefits of partnering approach. The research (Larson 1997) showed that the project performance in term of time, cost and quality was improved by adopting the partnering approach.

The core substance of the partnering approach should be the cooperative relationship between construction parties. The partnering approach draws considerable attention in the construction industry as a means for transforming hostile, adversarial owner-contractor relationships into a more collaborative team (Larson 1997). ACTIVE (1996, p.7), stated that 'the confrontational culture which is endemic in the sector has resulted in the development of inefficient business processes, which feed through, as overheads, to total project costs'. Thus partnering is intended to reduce the adversarialism which is said to be typical in the industry and which has confounded previous attempts to encourage better integration and cooperation between contractual partners. Central to partnering, therefore, is a determination to move away from adversarialism and litigation and to resolve problems jointly and informally through more effective forms of inter-firm collaboration.' If the cooperative relationship between construction parties is not improved, the benefits that are recognized only can be considered as 'side-effects'. The detail will be discussed in the section 2, literature review. Therefore the author would like to focus on cooperative relationship of partnering. The author aims at providing an indication on 'performance' in term of cooperative relationship between construction parties.

In this dissertation, the measurement of trust level and commitment level are used as a mean to give an indication on the 'performance' of cooperative relationship. Although the main factors affecting the cooperative relationship of the partnering approach are not limited to the trust and commitment, the trust and commitment are often discussed in associate with the cooperative relationship and the partnering approach. Partnering approach seeks to develop closer relationships between parties. Many factors affecting the successful of the partnering, a high level of commitment to shared goals is particularly importance (Fellows 1977). Cooperative relationships can be used to cultivate a climate for reflective learning and mutual trust, beyond purely on project performance improvements in term of time, cost and quality. Trust is the focus of the alliance objectives. It may not only reduce costs, but can also ensure a strategic and sustainable competitive advantage in today's environment (Love e. at. 2002). It suggests that the researchers consider the trust and commitment relatively more related to the cooperative relationship. The author believes that the measurement of trust level and commitment level can indicate the 'performance' of the cooperative relationship.

1.2 Research Objective

This dissertation aims to investigate whether the cooperative relationship between construction parties which is measured in term of trust level and commitment level is maintained at a higher level in the partnering projects than that of the non-partnering projects.

1.3 Significant of Research

If the cooperative relationship between construction parties is not maintained at a higher level in the partnering projects than that of the non-partnering projects, there is no strong reason to consider partnering as the solution to the adversarial culture. Although the research showed that the project performance in term of time, cost and quality is improved by adopting the partnering approach (Baker 1990, Bennett and Jayes 1996,

Larson 1997, Mosley and Moore 1994, T. Eckert 1994, Weston and Gibson 1993), the improvement could only be considered as 'side-effects'.

1.4 Methodology

Questionnaire survey will be conducted in the local main contractors in order to collect data for three categories which are formal partnering category, informal partnering category and non-partnering category. The trust level and the commitment level will be measured by two different scales which are Inter-Firm Trust Scale (Lau 2005) and Organizational Commitment Questionnaire (Porter at el. 1979) respectively. The One-Way ANOVA Tests, Least Significant Difference (LSD), Kendall's coefficient of concordance (W) will be the main test for statistical analysis. The detailed methodology will be presented in chapter 3.

1.5 Outline of Research

This dissertation will be organized in six chapters.

Chapter 1 is Introduction. It conceptualizes the theme of this dissertation. The background, objective, methodology and structure of this dissertation are covered.

Chapter 2 is Literature Review. It covers literature about the concept of partnering, the concept of partnering nature, the concept of trust, the concept of commitment, the partnering process and the most importantly the relationship of partnering nature and process.

Chapter 3 is Methodology. It gives detailed procedure in the collection of data and the data analysis methods.

Chapter 4 is Data Analysis. It covers the quantitative analysis of data which obtained from the questionnaire. The statistical summaries of data are presented for discussion.

Chapter 5 is Discussion. It presents the discussion on the findings in the chapter 4.

Chapter 6 is Conclusion. It summarized the discussion on the findings. The limitations of this dissertation and recommendation for further studies are covered.

2. Literature Review

This chapter gives a review of concepts and different perspectives on partnering approach. Firstly, the concept and meaning of partnering will be covered. Then the meaning of cooperative relationship and partnering tools will be covered. After having a brief understanding on the partnering, different perspectives on the partnering approach will be presented. Finally the Japanese inter-firm cooperation will be re-examined in order to find out the reason for different perspectives on the partnering approach.

2.1 Partnering Concept

2.1.1 Literal meaning

According to the Oxford Dictionary of English (2nd edition revised), (2003), partnering means Association as partners; the action or work of a partner. And its second meaning is one of Ballet movement in which one dancer is lifted or supported by another. There are three meaning provided by the Oxford English Dictionary on the Partnership. The first meaning is that the fact or condition of being a partner; association or participation; companionship. Second meaning uses in *Cricket*. It means that the pairing of two batsmen batting together. Third meaning uses in *Business*. It means that an association of two or more people as partners for the running of a business, with shared expenses, profit, and loss; the members of such an association collectively; a joint business. Also: the position of partner.

From the literal meaning, the partnering must involve more than one person. The parties in the partnering are willing to support each other and to share risks. The statuses of parties are at the same level. It means that there are no master and subsidiary relationship. The parties are cooperated at the level ground.

2.1.2 Difference between project partnering and strategic partnering

The partnering is generally classified into two types. They are project partnering and strategic partnering. In the literature (Bennett 1998, CII 1991, 1994, Larson 1996, Liu and Fellows 2002, Hellard 1995), the two types of partnering are considered as two different approaches. The project partnering concentrate on the short-term performance. Usually, the short-term performance is project based. In general, these performances are the project performance in term of time, cost and quality. However the strategic partnering is long-term relationship. The performance is not purely project based. The long-term performance are the continue improvement in project performance in term of time, cost and quality through the long-term cooperative relationship. The objectives of these two types of partnering are difference.

Bennett (1998) suggested that the project partnering could be escalated to strategic partnering in order to achieve more benefits. If one partnering can escalate to another type of partnering, they must share some similarity in nature. From their point of view, both types of partnering have an expressive intention that carrying out a construction project in a more cooperative way.

The major difference is the goal setting and level of cooperation. The project partnering aims to achieve the goal in relatively short period of time. It aims to promote the cooperation between parties and, as a result, project performance of the construction project in term of time, quality and cost is improved. There is more stress on the importance of short-term project improvement. The strategic partnering aims to achieve the goal in relatively long period of time. It aims to promote the high level of cooperation between parties along the supply chain and, as a result, project performance of the construction project in term of time, quality and cost is improved. There is more stress on the importance of long-term development of cooperation. Although the strategic partnering also aims to improve the project performance which is similar to the project partnering, the ultimate goal is to achieve continues improvement in performance in the long term which is a series of construction projects. There may be no improvement in

project performance in the short-term or even sacrifices the short-term or individual project's benefits in order to obtain the long-term benefits.

If we disregard the time's factor, would the project partnering and strategic partnering is more or less similar in nature? It is an interesting question. But the answer will depend on two questions. The first one is that whether the cooperative relationship between construction parties of partnering would be initiated, developed and maintained by the partnering tools in a short period of time. The second one is that whether the goals of the partnering tools developed in the project partnering is the development of the cooperative relationship which is a long term goal or is the improvement in the project performance in term of time, cost and quality which is a short-term goal. Regardless of these questions that will be covered in the discussion section, the idea of project partnering could escalate to strategic partnering is adopted in this dissertation. From this notion, the project partnering and strategic partnering can be discussed and considered together as the one word which is called 'partnering' in this dissertation. If readers do not accept this notion, the meaning of partnering in this dissertation is the strategic partnering only.

2.1.3 Strategic Partnering emerged from study of Japan

In the construction industry, the partnering approach was used for a long time in the western countries especially the United States and Australia. The partnering adopted in the western countries was mainly in form of project partnering which was project based. The details were discussed in the pervious section 2.1.2. The researchers stated that the full benefit of partnering only could be obtained by implementation of the strategy partnering down to the supply chain (Bennett and Jayes 1996,1998). This idea of the strategy partnering was emerged from the study of success of Japan construction in industry. The western researchers concluded that the success of Japan after the war was due to the long-term cooperative relationship. The cooperative long-term relationship was an important feature of Japan's management culture. A contractor was considered as a matter of great dishonour if another contractor ever won work from one of his established customers. The researchers concluded that contract conditions had no effect on the way

people work. Everyone in Japan was culturally motivated to concentrate on completing each project as efficiently as possible and finding ways of continuously improving their performance for the future (Bennett 1998).

The culture of Japan construction industry was concluded as a not adversarialism. The culture of industry was cooperative. The western researchers considered this relationship as the partnering or more specifically called strategic partnering. The western researchers suggested that the relationship in the construction industry should move away from 'arms-strength' contracting. The culture in construction industry should be directed to more cooperative relationship, especially the relationship between client and contractor which is considered as the most adversarial relationship. Although the co-working relationship between more than one companies can be developed in different forms such as joint venture which is two companies cooperate in the creation of a new, separate business entity in order to reach mutually compatible goals, the researcher emphasize the important of partnering as the solution of the adversarial culture. They proposed that benefits of the partnering are not limited to improvement in the project performance in term of time, cost and quality. In the long-term, the innovation, continue improvement in project performance and improved user satisfaction are obtained (ACTIVE 1996, Bennett and Jayes 1996, 1998). The most valued contribution that makes the partnering difference from the other forms of cooperation between parties is that the partnering approach can change the confrontational culture to a cooperative relationship in the construction industry. As a result, the project performance can be improved.

They concluded that the highly cooperative environment among Japanese construction practitioners was due to the cooperative relationship which could be considered as high level of trust and commitment. The building block was sharing of mutual objectives. They concluded that the relationship between construction practitioners could improve when the trust and commitment were built up among the construction parties which had the mutual goal. As a result, the performance of construction project in term of time, quality and cost could be improved in the highly cooperative relationship which reduced the unnecessary transaction cost. Claims dispute is one of the examples. After

identification the advantages and importance of the partnering, the western researchers developed a set of tools to initiate, develop or maintain the partnering relationship. Those tools were partnering charter, partnering workshops and development of dispute resolution process etc.

2.2 Definition of Partnering

After having a brief understanding on the concept of partnering in the construction industry and the difference between the project partnering and strategic partnering, the definition of partnering is stated as follows.

The following are abstracts of definition of partnering from different literatures.

Stralkowski & Billon (1988) stated that "The definition of partnering is a process in which two or more parties co-operate to an exceptionally high level to achieve their separate but complimentary goals and objectives."

Another definition was abstracted from RCF. It referred to it as "a set of strategic actions which embody the mutual objectives of a number of firms achieved by co-operative decision making aimed at using feedback to continuously improve their joint performance"

Crowley & Karim (1995) defined that partnering was composed of three elements.

"1.The anticipated outcomes or attributes of partnering, such as compatible goals, mutual trust, long-term commitment, etc.

2. The process that led to the outcomes where partnering is used as a verb to indicate an action, such as committing to common goals, organizing partnering workshops, developing trust, etc.

3. The organization interface that generates the new organization structure."

CII Australia (1996) defined partnering was a "long-term commitment between two or more organization for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant's resources. This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based upon trust, dedication to common goals, and an understanding of each other's individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services."

ACTIVE (1996) stated that "Central to partnering, therefore, is a determination to move away from adversarialism and litigation and to resolve problems jointly and informally through more effective forms of inter-firm collaboration."

The more details in formation and development of partnering can be explained by three stages of partnering. They are explained as follows.

First stage

It begins with agreeing mutual objectives to take into account the interests of all the firms involved. The decisions are made openly and resolving problems in a way that was jointly agreed at the start of a project. And it can provide continuous measurable improvements in performance from project to project (Larson 1996, Bennett 1998)

Second stage

It begins with a strategic decision to cooperate by a client and a group of consultants, contractors and specialists engaged in an ongoing series of projects. It encourages continuity of personnel from project to project (Black el. at. 2000, Bennett 1998).

Third stage

The construction firms use cooperation throughout their supply chains to build up efficient 'virtual organisations' that respond to and shape rapidly changing markets. They will use new technologies to satisfy customers' expectations."(Love et al. 2002, Bennett 1998)

Chan et al. (2003) stated the partnering definition as "It is the simple process of establishing good working relations between project parties through a mutually developed, formal strategy of commitment and communication aiming towards a 'win-win' outcome for all parties. It is designed to minimize job costs and schedule overruns. All implied conditions in contract are in good faith."

There is no clear precise definition of partnering from the literatures which mentioned before. Different scholars and researchers may use different words to explain or state. There are slight deviations when the partnering is explained by different words. In generally, the partnering can be defined as aiming to achieve mutual benefits which is continue improve the project performance through an cooperative working relationship. Barlow and Cohen (1996), Bresnen and Marshall (2000) stated that the partnering approach is a general term that is used to capture a spirit of cooperation that may occur on any type of project collaborative or otherwise. Larson (1997) stated that the partnering approach draws considerable attention in the construction industry as a means for transforming hostile, adversarial owner-contractor relationships into a more collaborative team. Therefore the cooperative relationship between parties may be considered as the core substance of the partnering.

2.3 Cooperative Relationship Between Parties

Although the factors affecting the cooperative relationship between parties are not limited to the trust, commitment and mutual goal, they were often discussed in associate with the cooperative relationship. Partnering approach seeks to develop closer relationships between parties. Many factors affecting the successful of the partnering, a high level of

commitment to shared goals is particularly importance (Fellows, 1977). Cooperative relationships can be used to cultivate a climate for reflective learning and mutual trust, beyond purely on project performance improvements in term of time, cost and quality. Trust is the focus of the alliance objectives. It may not only reduce costs, but can also ensure a strategic and sustainable competitive advantage in today's environment (Love el. at. 2002). These literatures suggested that the researchers considered the trust, commitment and mutual goals relatively more related to the cooperative relationship. It is consensus in the business literature (Van Den Ven 1976, Das and Teng 1998), not only the construction business, that trust is an important factor in making companies to cooperate each other. And the commitment is an important factor in keeping companies together in maintaining the relationship in the long-term. The mutual goal is an important factor to getting two 'stranger companies' together in order to beginning and maintaining the relationship. The detail investigations of trust, commitment and mutual goal are out of the scope of this research. However it is still worth to have basic understanding on their concept. They will be discussed in the following contents.

2.4 Trust Concept

A lot of research in Hong Kong construction industry emphasized the importance of trust in the partnering. (Cook el at. 1980; Hart 1988) Trust is an important component in the long-term stability of the members of the organization. Bromiley & Cummings (1995) explained the significant of trust in term of transaction cost. Bromiley & Cummings (1995) stated that trust reduced transactions costs in and between organizations. The cost on control, monitoring and other kinds of transactions costs depended on the opportunism (Bromiley & Cummings 1995). The opportunism depended on and affected to the level of trustworthy behaviour in an organization (Bromiley & Cummings 1995). Therefore it was suggested that trust could reduce the transactions costs.

(Cheung el at. 2003) stated that trust needed to be earned. Trust could only be developed on a strong degree of predictability. It shared the notion of the prisoner's dilemma. (Rapoport el at. 1965) stated that in the two parties situation, the move or action of one

party could affect another party move. Another party would react to the move or action of the party. In the prisoner's dilemma, the cooperative move was concluded to be the reciprocal moves. If a party had a cooperative move, the party expected that another party would also have cooperative move. Rotter (1967) stated that trust did not relate to specific experiences but generalized expectancy derived from the experiences that individual perceived. Yamagishi and Tamagishi (1994) stated that 'trust exists when the trustor believes that the other party has incentive to cheat but, because of its goodwill, will not cheat.'

According to Whitney (1999), there were five main source of mistrust in the construction industry. They were Misalignment of measurements and rewards, Incompetence, Lack of appreciation of a system, Untrustworthy information and Failure of integrity.

2.4.1 Multi-Bases of Trust

The trust is multi-bases. Different research used different terms to describe different bases of trust. In the following content, the idea in categorizing different bases of trust were developed based on the categories which was proposed by Lau (2005). They were the Moral Base, Social Base and Calculative Base.

Moral (attitudinal) base

Moral dimension is self-regulated (Lau 2005). The trust is a moral term and is linked to ethical behaviour (Parson 1969). Trust is a positive word that can be regarded as virtue. It is related to a desire for approval and compliance with social rules, roles and conventions (Kristansen & Hotte 1996). Bromiley & Cummings (1995) stated that trust was defined as good-faith efforts to behave in accordance with any commitments both explicit or implicit.

Social base

(Lau 2005) stated that the acceptable social standards reflect the social base trust. (Lau 2005) also stated that an individual may compromise self-interest in the interest of a

social group. The culture background has large influence on it. An individualism party had a different perception of trust to a collectivelism party.

Calculative base

It is based upon economic factors. The trust level is based on the calculation of benefits. (Lau 2005) People evaluated the potential benefits in trade-off with another people. They calculated what they gave to another people and what another people gave in return. The calculative trust could be gained physical or observable proof. The project performance record was an example. Bromiley & Cummings (1995) stated that trust was defined as did not take excessive advantage of another even when the opportunity was available. Zucker (1986) proposed that it was based on past experience of the trusted party meeting expectations. Clear and pre-established expectations were the main reasons of trusting another parties. The trusted party paid a penalty for violating the trust (Zucker 1986).

After reviewing the concept of trust, the commitment will be discussed. It is because a certain level of trust is needed when the parties or individuals committed to a mutual goals or goals. And when the parties and individuals have certain level of trust, they have certain level of commitment.

2.5 Commitment Concept

Commitment is stated as Organizational Commitment or Commitment. Commitment usually used as positive word which is the same as the word 'trust'. (Porter et al. (1979) stated that it was predicted that individuals highly committed to an organization's goals and willing to devote a great deal of energy toward those ends would be inclined to remain with the organization in an effort to assist in the realization of such highly valued objectives. The researchers in commitment had largely adopted the view of Mowday et al. (1982) who highlighted that underlying organizational commitment was the notion of the individual's attachment or linkage to an organization or social system. Such that, for the purposes of measurement, high commitment had effectively became equated with positive feelings towards the organization and its values, in essence, an assessment of the

congruence between an individual's own values and beliefs and those of the organization (Swailes 2002). As a result, commitment is viewed as positive attitudes and would improve the performance of organization which was considered as partnering relationship.

Mowday et al. (1979) defined that Organization commitment was the strength of the individual's identification with and involvement in a particular organization. It was characterized by three factors which were as follows (Mowday et al. 1979):

-A strong belief in and acceptance of the organization's goals and values
-A willingness to exert considerable effort on behalf of the organization
-A definite desire to maintain organizational membership

An example given by Mowday et al. (1979) was that "While the individual may be dissatisfied with either his or her pay or supervisor, a high degree of commitment to the organization and its goals may serve to override such dissatisfaction in the direction to continue participation in the organization."

2.5.1 Difference between commitment and loyalty

Swailes (2002) stated that the Mowday's definition was criticized for not carefully separating the motives for commitment from their effects. A desire to remain with an organization can be seen as a consequence of commitment rather than as part of its definition (Peccei & Guest 1993). It stated an importance issue about the different between loyalty and commitment. Loyalty and commitment were traditionally viewed as the related word which had similar in meaning. Actually they are two distinction words especially in the interpretation of partnering. The commitment mentioned in the partnering project is the meaning of "commitment" and not the loyalty. Mueller et al. (1992,213) stated that loyalty was an affective response to and identification with an organization based on a sense of duty and responsibility. (Swailes 2002, 6) stated that loyalty could be seen as inter-venting between pressures on an individual to leave an

organization and the decision to stay or leave. If the meaning of commitment in the partnering is loyalty, it contradictes with the original concept of the partnering. It is because the parties are free to create or not create the partnering relationship. It is not bind by the contract. The parties have intent to work and cooperate together. And the commitment have the meaning of 'intent to stay'. It is different to the loyalty.

With the development of concept and meaning of commitment, the commitment is defined generally into different bases. The commitment is suggested to be affect by multi-factors.

2.5.2 Multi-Bases of Commitment

Different researches used different terms to describe different bases of commitment. In the following content, the categories in defining different bases of commitment were adopted the category which was proposed by Swailes (2002). He suggested four different bases for the commitment. They were Affective (attitudinal) commitment, Continuance commitment, Normative commitment and Behaviour commitment.

Affective (attitudinal, moral) commitment

It is based on acceptance of and belief in the goals of an organization or group. Moral commitment could lead a highly positive orientation towards an organization (Etzioni 1961). It sourced from internalization of organizational norms. They were in one of two forms which are pure moral involvement and social moral involvement (Etzioni 1961, 11).

Pure moral involvement arises when members which could be interpreted as a party in the partnering relationship acting individually, internalize organizational norms and values. Social moral involvement arose when internalization was result of pressure from other social groups such as work group, internal or external customers, suppliers or a management team. Etzioni (1961) rated moral involvement with high commitment.

Continuance (calculative) commitment

It is based on social and economic factors. For the economic factors, Etzioni (1961) proposed Calculative involvement which represented a relationship with an organization based on a notion of exchange in which members evaluated the trade-off between what they gave to the organization and what the organization gave or offers in return (Swailes 2002).

Becker (1960) stated continuance commitment came from the accumulated sacrifices and investments made by an employee who was considered as parties in the partnering relationship who came to feel that they had too much to lose by quitting. It was based on economic reasons and also captured the process by which individuals became committed and embody the 'cost' of leaving an organization which was considered as partnering relationship.

For the social factors, Becker's (1960) suggested side-bets theory underpins commitment based on behavioural attachment to social groups in the organization.

Etzioni (1961) stated that the calculative involvement could lead to a slightly positive and negative orientation towards the organization.

Normative commitment

It is based on feelings of loyalty and obligation. Control commitment arose when employees (partnering parties) believed that the norms and values of an organization (partnering relationship) represented a suitable model to follow to guide their own actions and work (Mowday et al. 1982, 24).

Behaviour commitment

It is based on binding behaviour. It sourced from the effects of past behavioural and actions that over time bind employees to a greater or lesser extent to an organization and/or course of action (Neale and Northcraft 1991; Salancik 1977, 1982). There were three factors tie individual to his act. As a result it leaded to commitment. They were the

visibility, the irrevocability and the volitionality of the behaviour. Individuals could become more or less committed by varying the three characteristics (Salancik 1982,209).

There is strong relationship between goals and commitment (Locke el at. 1988). The effectiveness of goal setting presupposes the existence of goal commitment (Erez & Kanfer 1983, cited Locke el.at. 1988). It is a matter of goal setting theory. Therefore after having the brief understanding on the commitment, the concept of mutual goals will be presented.

2.6 Mutual Goals

Liu & Fellows (2001) stated that if the concept of goal was not used, organizational behaviour would be a random outcomes which was subjected to any point of pressures and forces existed at any point of time. The construction project due to its temporary nature, the goal became importance factor. The project was goal orientated (Liu 1996). Liu & Fellows (2001) stated that 'goal setting for project is primary important such that until mutual goals are established appropriately and communicated, synergistic performances, success and satisfaction will remain impaired.'

Liu & Fellows (2001) stated that the goal might be changed from time to time. The forms of change of goals could be in form of shifting the focus from the original goal to another goal, deflecting from the original goal and redefining the original goal to a new goal. The change of goal was subject to the external force, internal force from the organization and the changing in environment.

After reviewing the literature about the concept and meaning of partnering together with concept of trust, commitment and mutual goal, the relationship between them is illustrated in Figure 1. There will be more discussion on relationship between cooperative relationship and the partnering tools in the discussion section. There is strong relationship between goals and commitment (Locke el at. 1988). The effectiveness of goal setting presupposes the existence of goal commitment (Erez & Kanfer 1983, cited Locke el.at.

1988). It is virtually obvious that if there is no commitment to goals, then goal setting does not work (Locke el. at.1988). Erez and Zidon (1984) carried out an experiment and stated that a significant decrease in performance as goal commitment declined in response to increasingly difficult goals. The obtaining of mutual goals can help to develop the calculative based trust which was mentioned before. It is because the actual goals or benefits can be obtained and hence the calculative based trust is developed. A certain level of trust is needed when the parties or individuals committed to a mutual goals or goals. And when the parties and individuals have certain level of trust, they have certain level of commitment.

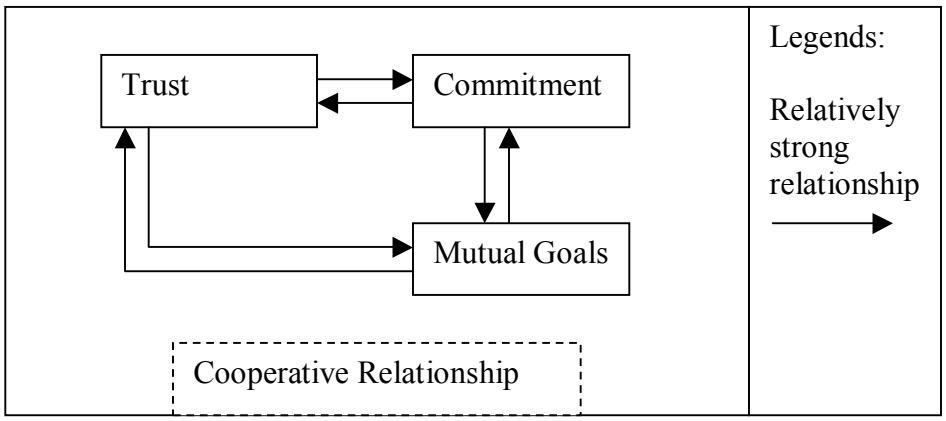

Figure 1: Illustration of relationship of trust, commitment and mutual goals in the cooperative relationship

After having the brief understanding on the partnering, the significant of the cooperative relationship was discussed. And the trust, commitment and mutual goals were discussed briefly for the understanding of the cooperative relationship. The partnering tools will be presented.

2.7 Partnering tool

After identification of importance of cooperative relationship between parties, the western researchers and practitioners developed different partnering tools to initiate, develop and maintain the partnering relationship (Bennett and Jayes 1996, Hellard 1995,

Larson 1997). The partnering tool is a set of strategies and a set of practical procedure in initiation, developing and maintaining the partnering among the parties. The partnering tool may be different in formality, but most of partnering tools are similar in nature. The financial incentive is one of the frequently used forms of partnering tools. They can be one of the forms of 'risk-reward' or gainshare-painshare' arrangement (Green 1995). They should be based on the fairly distribution of risks and rewards among the parties (Larson 1996). And they should be tailed made to particular project's objectives (Bennett and Jayes 1996). Those financial incentives are developed to initiate, develop and maintain the partnering.

2.7.1 Strategy for implementation of partnering tool

"The Seven Pillars of Partnering" proposed by Bennett (1998) gave a simple and comprehensive statement about the strategy in initiation, fostering and maintaining the partnering. They are as follows (Bennett 1998):

"1. Strategy – developing the client's objectives and how consultants, contractors and specialists can meet them on the basis of feedback (Bennett 1998, Hellard 1995)

2. Membership – identifying the firms that need to be involved to ensure all necessary skills are developed and available (Bennett 1998, Hellard 1995, Larson 1997)

3. Equity – ensuring everyone is rewarded for their work on the basis of fair prices and fair profits (Bennett 1998, Larson 1997)

4. Integration – improving the way the firms involved work together by using cooperation and building trust (Bennett 1998, Larson 1997, Black el at. 2000)

5. Benchmarks – setting measured targets that lead to continuous improvements in performance from project to project (Bennett 1998, Larson 1997)

6. Project Processes – establishing standards and procedures that embody best practice based on process engineering (Bennett 1998, Hellard 1995, Larson 1997)

7. Feedback – capturing lessons from projects and task forces to guide the development of strategy" (Bennett 1998)

2.7.2 Practical application of partnering tool

Beside the strategy in achieving the successful partnering which means that high level of the cooperative relationship, the researchers or practitioners suggested different partnering tools. Generally creation of partnering charter, partnering workshop and development of evaluation and dispute resolution process are the partnering tool which commonly adopted in the industry.

The partnering workshop

All parties must participate in a partnering workshop (Bennett 1998, Bayliss et al. 2004, Hellard 1995). It is used for development of the mutual goals and strategy for implementing the mutual goals, 'education' of the parties, development of an issue resolution process and development of an issue resolution process.

Development of mutual goal

The mutual objectives can be developed in the workshop. The parties identifie their individual goals for project. The goals that their interests overlap is set up or agreed for the mutual goals. The mutual goal can include achieving value engineering savings, meeting the financial goals of each party, limiting cost growth, early completion, no time lost because of injuries and no litigation etc (Bayliss et al. 2004, Hellard 1995, Larson 1997). Then a set of strategy for implementing their mutual goals is developed

The parties have right involvement. Understanding and commitment is essential. The people in the parties must be educated before using the partnering approach (Hellard 1995).

Creation of the partnering charter

Through the identification of parties' respective goals for the project, mutual objectives can emerge. These mutually developed objectives form the partnering charter (Hellard 1995). The charter is not only a symbol of the parties' commitment to partnering, but also can be used as the scale against which the parties' implementation of the process can be evaluated. The signing of the charter after the personal interaction necessary for the development of the mutual goals is an important formalization of the bonds among all the parties (Hellard 1995, Larson 1997).

Development of an issue resolution process

A system or instrument in resolving the disputes and claims should be developed and agreed by both parties. The rationale is that the problems can be solved from the beginning in order to avoid it becoming to a big problem (Bayliss et al. 2004, Bennett 1998, Larson 1997). Hellard (1995) also stated that the decision making process became more efficient and delays were avoided. The disputes and claims resolution method usually involve financial incentive scheme. As the disputes and claims are quickly resolved together with the financial incentive, the relationship between parties should be improved and the trust level and commitment level should be increased.

Take the MTRC TKE contract 604 as an example, Incentivisation Agreement (IA) was an instrument in resolving the disputes. The IA provided shared risk provision which provided for a target cost set against an agreed list of risks. The cost savings against the target cost were shared by client and contractors (Bayliss et al. 2004). The IA was concluded to be successful in reducing the number of claims (Bayliss et al. 2004).

Development of a joint evaluation process

A joint evaluation process should be discussed and agreed by both parties (Hellard 1995, Larson 1997). It is carried in form of periodic meeting. It is used to evaluate the performance of the parties. The content of the evaluation can be a wide range of project performances that was not limited to time, cost and quality. Take the MTRC TKE

contract 604 as an example, the measurement on job satisfaction, safety and communication were incorporated in the evaluation.

Hellard (1995) highlighted the importance of a qualified facilitator. He stated that a partnering could be initiated in more effective and efficient way when a qualified facilitator was employed. A neutral facilitator was a person who was employed for organizing the workshop agenda and providing training in conflict management, listening and communication skills and insights into individual problem solving styles.

The partnering tools mentioned above were developed by the researchers and practitioners in order to build up the cooperative relationship. After the discussion on partnering and had a brief understanding on the partnering approach, different views on the application of partnering approach is presented.

2.8 Common perspectives on partnering approach in western countries

ACTIVE (1996, p.7) `the confrontational culture which is endemic in the sector has resulted in the development of inefficient business processes, which feed through, as overheads, to total project costs'. Thus partnering is intended to reduce the adversarialism which is said to be typical in the industry and which has confounded previous attempts to encourage better integration and cooperation between contractual partners.

The researchers and practitioners believed that the confrontational culture could be reduced by the introduction of the partnering approach. The practitioners selected to use partnering approach because they believed that the traditional adversarial relationship in the construction industry would generate a lose-lose situation for all the parties. They believed that there would be a win-win situation when they share the common goals and worked in a more cooperative environment. They accepted that that the simple and strict solution was the partnering approach. With consideration of difficult in changing the adversarial relationship, the extensive partnering tools which were illustrated before were

developed. They deemed that the partnering tool could help to build-up a cooperative working environment.

Several case studies and empirical studies stated that the project performance could be improved by adopting the partnering approach in construction projects. Case studies includes as follows:

In the Bonneville Navigation Lock Project, US $1.8 millions saving was attributed to partnering (Mosley and Moore 1994).

In the renovation project of Chemistry lab, US$ 250,000 was saving was attributed to partnering. It is about 7 % saving of the final construction cost (T. Eckert 1994).

Empirical studies are as follows:

Seven clients and eleven contractors who adopted partnering approach in carrying out the project were surveyed. The study reported that about 10 – 11% of construction cost was saved by the clients. And the profit of the contractors was increased by 4 – 9%. It showed that a win-win situation (Baker 1990).

16 construction projects which adopted partnering approach and 28 construction projects which did not adopt partnering approach were studied. The study reported that the growth in the final cost of projects with partnering was less than that of projects without partnering by 6% (Weston and Gibson 1993).

The empirical study was conducted in USA. The empirical study showed that the project performance was improved by adopting the partnering approach. Furthermore, in the same empirical study, he used regression analysis and got correlation between the partnering tools and project performance. In the study, he proofed that the process (such as Conflict identification) had contribution to the success of the project (such as avoiding litigation) (Larson 1997).

All the successful case studies and impressive empirical studies reinforced that the partnering is the solution of solving the adversarial relationship. The benefits of adopting the partnering approach are proofed by the scientific analysis. It provides a strong evidence to support the benefits of adopting partnering approach. The detail will be discussed in section 5.2.6.

2.9 Common perspectives on partnering approach in Hong Kong

In Hong Kong, the reason of promoting the partnering in the Hong Kong construction industry shared similar views in the western countries which mentioned before. The Hong Kong construction industry is highly competitive market. Chiang et al. (2001) concluded that the private building sector and public building sector was the most competitive in Hong Kong. There was no dominant building contractor in this sector. These contractors resorted to cost competition. Generally, profit margins were low, and were only squeezed through the exploitation of lower layer subcontractors. Competitiveness based on cost reduction. It created no enduring competitive edge. And the adverse culture was created in the industry. It was identified as a major cause of inefficiency which were sub-standard works, delay of works and over budget in the industry.

The partnering approach is suggested to be one of the solutions to solve the problems. It is a way to promote cooperative contracting. And it can improve quality and programme and to reduce adversarialism between involved parties. Chan et al. (2003) conducted questionnaire survey in order to find out the major benefits of partnering in Hong Kong construction industry as perceived by clients, consultants and contractors. 355 questionnaires were delivered to the client's organization, contractor and consultants. The response rate of this survey was 30.4%. 78 questionnaires were returned and used of analysis. The survey concluded that the position and role of project participants might influence their perceptions of partnering benefits. A benefit to one group might be a burden to the other. The most important benefit perceived by the clients was the 'Faster

construction time'. For contractors and consultants, they perceived the most important benefit was improvement of relationship amongst project participants. Clients and contractors were more supportive of the partnering concept and should take the lead in promoting partnering.

And the common benefits of partnering were also concluded. The benefits were reduced litigation, better cost control, better time control, better quality product, efficient problem solving, closer relationship, enhanced communication, continuous improvement, potential for innovation, lower administrative cost, better safety performance, increased satisfaction, improved culture, high level of mutual trust (Is it System-based trust? There is no mention in the article) and greater responsiveness to problem (Chan et al. 2003).

The research concluded that there were lots of benefits for adopting the partnering approach. It suggested a reason for the partnering approach becoming a popular among the construction industry. And the researchers and practitioners carried out lots of researches in order to investigate the implementation of partnering approach into the construction industry. A large proportion of the researches were about development of trust or contributing factors to the trust or trust related topics. It is because the trust was highly recognized as an important factor in the partnering. And it was regarded as a method to make the partnering becoming more efficiency.

Wong and Cheung (2004) stated the trust factors contributed the in partnering success in Hong Kong. The system-based trust was ranked in high priority in clients, consultants and contractors. This research adopted two parts in collection of data. First, the data was based 120 postal questionnaires survey concerning the importance of 14 trust attributes in affecting partners' trust level. The questionnaires were sent to the practitioners having experience with partnering. Second, interviews were carried out with experienced practitioners.

The result of survey showed that Clients and Consultants group ranked Partners' performance at first priority and Partners' permeability at the second priority. And the

system-based trust at the third priority. For the Contractors group, Partners' performance and permeability was ranked first priority and System-based trust was ranked second priority.

The article concluded that developing trust among project partners was of fundamental importance for the success of partnering project. The study confirmed that the trust development of clients and consultants group and contractors group were compatible to the Hartman's trust model that trust in construction project was based on 'Competence', 'Integrity' and 'Intuitive' perspectives. It indicated the importance for partners to formulate equitable contract terms and establishing channels to resolve difference right at the beginning of the project so as to trigger the trust cycle. And it also concluded that Hong Kong was system-based trust. "It emphasizes reliance on the formalized system like law and contracts." The trust was system-based. It is because there were a few large companies having a series of construction projects. There was little opportunity to facilitate long term cooperation among practitioners and to establish similar values. Although there was a debate among the researchers in Hong Kong on whether system based trust was a type of trust, some of practitioners considered system based trust as the nature of partnering.

Cheung el at. (2003) conducted a research on the behavioral aspects of the participants in construction partnering. The main sources of mistrust in construction were identified in the research. The criticality of trust as a success factor for partnering was also discussed. The research stated that unbalanced risk allocation in contract provisions, adversarial relationships between project participants, together with the traditional client-contractor mentality were the major source of construction problems. Practitioners in the industry had a view that contract provisions are so designed in favour the clients and leaving the entire burden on contractors.

The research also stated that construction projects were typically awarded through a competitive tender process and often the lowest bid got the job. It might result in

substandard workmanship and 'quick-buck' attitude among contractors. It also hampered the relationship between the contracting parties.

According to the research, partnering was an effective tool to improve quality and programme and to reduce confrontations between parties. It was suggested that the partnering tools could enable an open and non-adversarial contracting environment. The research further pointed out that the existing adversarial industrial culture had to be changed in order to make partnering effective. And the attitudes of practitioners had to change in order to achieve the change in culture.

The research stated that due to inherent conflicting objectives of the contracting parties, the cooperation envisaged in a partnering might not be readily available. The cooperation between parties might be readily available when the parties identified the benefits of partnering. The research suggested that the fundamental element of partnering was trust. Trust was attitude of human acts or beliefs. It needed to be earned. Trust could only built on a strong degree of predictability.

A case study on MTRC TKE contract 604 stated the project performance could be improved by adopting project partnering. This case study focused on how the partnering was implemented by Client, MTR. The objective of the case study was to identify the partnering tools that were effective in implementation of partnering. The effective partnering tools could be identified through interviews with key contract participants and data collected throughout the contract period (Bayliss el at. 2004).

Formal strategies and practical procedures (partnering tools) were established and implemented in order to achieve the cooperative relationship. The involved parties believed that these partnering tools could help to initiate, develop and maintain the trust. The researches concluded that trust developed with reciprocating co-operative moves. This often rose at times of crisis or problems. Where crisis or problems resolved with the effort of the other party, trust between the parties grew. Complacency stifled trust building. Therefore the practitioners were recommended to adopt their suggested

extensive partnering tools to achieve a successful partnering in the future projects. These partnering tools included monthly partnering review meetings, executive partnering workshop, social function and publication of newsletters etc. The detail explanation of partnering tools were stated as follows (Bayliss el at. 2004):

Contract specific partnering workshop
It was used to bring out the expectations of the parties and define the project mission.

Partnering charter
It was used to set out the project objectives in form of the agreement for the contracting parties to commit.

Monthly partnering review meetings
It was used to monitor the partnering statues of the project. Partnering score questionnaire was prepared for monitoring soft and hard issues of the project. The scores and the parties' changes were discussed. The changes of scores could be used as a reflection of the achievement of a certain partnering attribute.

Social functions
It was used to develop and foster team spirit.

Partnering newsletters
A newsletter caller 'Win-Win' was published monthly (Bayliss el at. 2004). It was used to reinforce and maintain the partnering spirit.

The partnering attribute scores (MTRC & KG) were developed to monitor the level in successful of partnering. According to the movement chart of partnering attribute scores (MTRC & KG), there was no significant improvement before implementation of Incentivisation Agreement (IA). IA was an agreement with better risk sharing arrangement. However the scores were improved after the introduction of IA. MTRC

regarded this IA as critical element to the success of the partnering in TKE contract 604. The IA is considered as highly related to the project success.

2.10 Alternative perspectives on the partnering approach in the western countries

Beside the common perspective on the partnering approach, some researchers in the western countries have different perspective on the partnering approach. They proposed that there should be more in-depth systemic analysis on the cooperative relationship of partnering. Although lots of empirical studies proofed that the project performance was improved when adopting partnering approach, it was difficult to conclude that the improvement in performance was directly related to the partnering (Barlow el at. 1997). Bresnen and Marshall (2000) proposed that the cooperative relationship should be analysis on the social and psychological aspects. They further proposed that the organization theory in social science concepts and theories were used to assess the partnering nature. Bresnen and Marshall (2000) stated that the partnering was a vague and inclusive concept including a wide range of stuffs. They were behaviour, attitudes, values, practices, tools and techniques.

The partnering tool was not effective and efficient way to improve a relationship between contractual parties (Bresnen and Marshall). The cooperative relationship could not be 'setup' by a set of structured partnering tools. Silverman (1974) stated that the behaviour was not simply determined by formal structure and systems. It was the result of rational choices and actions. It was a complex inter-relationship between structural requirements and the individual's subjective interpretation and performance. The implementation of partnering tools did not necessarily lead to a highly cooperative relationship. And the traditional procurement system such as lump sum tendering did not necessarily lead to an adversarial environment (Green and McDermott 1996).

Bresnen and Marshall (2000) challenged that the partnering could not 'setup' by a universal set of systems, practices and procedures. The partnering was not suitable for any types of project and it was not a universal pills to any form of adversarial relationship

in the construction industry (Bresnen and Marshall 2000). The traditional attitudes and behavious in the construction industry were firmly rooted. It was difficult to be changed by a set of system, practices and procedures (Green and McDermott 1996).

Green and McDermott (1996) stated that the partnering or alliancing should be evolved by a natural evolution of long term relationship between parties. When the economical benefits were revealed by the both parties, they by-pass the traditional tendering mechanism and begin the cooperative working relationship, they by-passed the traditional tendering mechanism and began the cooperative working relationship by trusting each other (Green and McDermott 1996). When the partnering was considered as a solution to resolve the adversarial culture, it was a paradox. Bresnen (1996) stated that it was difficult to develop of trust between clients and contractors when there was a real economic benefits for the parties to act in an adversarial way.

Bresnen and Marshall (2000) carried out a research on case studies of the construction projects which carried out in the United Kingdom. The projects in case studies were ranged from medium to large scale. The aim of the research was to have a comparative analysis on both partnering or alliancing projects and non-partnering or non-alliancing projects in order to assess the transferability of collaboration practices. The findings of the researches showed that the projects which used the traditional approach could also yield benefits which included the improvement in the project performance in term of time, cost and quality. And the collaboration which was presumed only could obtained by the partnering projects was also the outcome of non-partnering or non-alliancing projects (Bresnen and Marshall 2000). On the other hand, the partnering or allicancing projects did not guarantee the high level of collaboration as the outcome (Bresnen and Marshall 2000). In the research, it also pointed out that the collaboration did not necessarily remove conflicts at source (Bresnen and Marshall 2000). The research concluded that the partnering could not be applied to different types of projects. The partnering approach was not a universal approach that could give the desired outcome to every type of projects and resolve every types of adversarial relationship. There were lots of constraints in implementation of partnering which included difficulties in ‘providing continuity of

work and overcoming misgivings about the long term relationship being too high in cost and uncompetitive' (Bresnen and Marshall 2000). The partnering tools and strategies might help to initiate, develop and maintain the collaboration in short term (Bresnen and Marshall 2000). The capability and appropriate experience of client and the nature of projects would determine the successful of implementation of those partnering tools and strategies (Bresnen and Marshall 2000).

2.11 Alternative perspectives on partnering approach in Hong Kong

Some researchers in the Hong Kong had different perspectives on the cooperative relationship of partnering approach. They proposed that there should be more in-depth systemic analysis on the cooperative relationship of partnering in order to provide building blocks in operating the partnering tools (Liu & Fellows 2001). Liu & Fellows (2001) proposed that implementation of a set of partnering tools without the consideration of the cultural issues, the consequent adaptations and preparations could not guarantee the desired outcome (Liu & Fellows 2001). The full benefits of partnering could not be realized.

In the discussion of the partnering, Liu & Fellows (2001) defined that Process was a structural framework of the partnering. It was a form presented in the partnering. For example, risk sharing agreement, equity of the partners, claim disputation settle agreement. Nature was characteristic of partnering. Trust, commitment and common goal are the nature of the partnering. It did not exist physically unlike process. Liu & Fellows (2001) proposed an eastern perspective on the nature of partnering in order to understand the values of the partnering. It was the Confucian concept of self-cultivation and the synergistic whole (Liu & Fellows 2001). The self-sacrifice to the common good, respect for others and self-examination were highly valued and the important ideas in the Confucian (Liu & Fellows 2001). The Confucian teaching was not affected or only slightly affected by the calculative-based instruments such as financial incentives and sense of pride. It highly emphasized on the self-cultivation (Liu & Fellows 2001). 'The self sacrifices to the common good leaded to the trust, mutual benefit, sincerity and

benevolence' (Liu & Fellows 2001). The trust was not the only important factors that maintain the collaboration of partnering in the long-term. The goal setting was also primary important in the partnering (Liu & Fellows 2001). The goal must be specific and clear. Without the goals concept, the behaviour was a random occurrence (Liu & Fellows 2001).

Li el at. (2000) carried out a comprehensive literature review on the common perspective of partnering. Both the empirical studies and non-empirical studies were covered. And the empirical studies were further categorized into four different themes. They were empirical studies on the project partnering, examination on dual relationship, international partnering and a special application of partnering. Li el at. (2000) provided a overview on the common perspective on partnering researches. It was a good reference to understand the common adopted meaning and concept of partnering. Li el at.(2000) did not express their views on the partnering approach. Li el at. (2000) only suggested that the further researches should be focus on the empirical studies on the existing hypothesis, principles and practical procedures which were developed in the literature. The researches on the performance measures and critical success factors, test models on the partnering models and processes were highly recommended (Li el at. 2000).

2.12 Re-examine of Japanese Inter-firm Cooperation

In the construction industry, the cooperative relationship is not solely discussed in the partnering topic. It is not a new topic. The importance of cooperative relationship was discussed for a long time in the construction industry. The Team Building, Teams, Inter-firm cooperation, Supply Chain Management, Total Quality Management were topics related to the cooperative relationship in the construction industry. Although, in the literature which covered before, there was no consent that the partnering tools and concept was developed on top of those cooperative relationship related topics, the discussion of the partnering often involved the discussion of those cooperative relationship related topics. From this perspective, the partnering may be considered as a main conclusive topic which is on the top of the cooperative relationship related topics

which were mentioned above. It is worth to investigate the cooperative relationship related topics one by one in order to have an in-depth understanding of the partnering. The study on each of the cooperative relationship related topics is out of the scope of this research. However without an in-depth understanding of partnering, it is difficult to understand the grounds of the different perspectives on the partnering approach. Therefore one of the cooperative related topics is selected in order to understand the partnering.

As mentioned before, the full benefits of partnering can only be obtained from the strategic partnering. There is a view that the idea of strategic partnering is emerged from the study of success of Japan construction in industry. The western researchers concluded that the success of Japan after the war was due to the long-term cooperation relationship which was mentioned before. Therefore the study of Japanese inter-firm cooperation is covered in order to understand the origin of the strategic partnering. The rationale is that the primary step in understanding and analysing the grounds of different perspectives on the partnering approach is understanding the origin of the partnering. Re-examination of the Japanese inter-firm cooperation can help to understand the origin of the strategic partnering.

In the literature on Japanese inter-firm cooperation, the inter-firm cooperation in Japanese was originated from the Buyer and Supplier Relationship of Japanese automobile companies such as Toyota and electronics companies. The Japanese companies did not behave opportunistically taking advantage.

It is common view that the Japanese automobile and electronics firms had high competitive advantages over the companies in the United States and Western Europe in the past. The Japanese automobile and electronics firms were high in productivity and manufacturing flexibility. The western researchers concluded those competitive advantages were derived from cooperative supplier networks (Fruin 1992, Odagiri 1994). The cooperative supplier networks in these industries was based on high level of trust and

goodwill between Japanese companies. They were willing to cooperate with each other with little worry about the other party's possible dishonesty (Dore 1987).

A number of devices independently and collectively reduced subcontractors' incentive to behave opportunistically for short-term profis, while also promoting cooperation by suppliers (Odagiri 1994).

The trust observed in Japanese buyer-supplier relations was initiated and maintained by the institutional sanction and incentive arrangements for subcontracting in Japan. These effective incentive arrangements were a clustered control, bilateral price determination, bilateral product design, black box design, a dual-vendor policy, and short-term contracting (James & Soonkyoo 1998).

Nishiguchi (1994) stated that the clustered control structure was that the company at the top of production purchased completed parts and systems components from a concentrated base of first-tier subcontractors, who specialized parts from a cluster of second-tier subcontractors, who buy from third-tier subcontractors, and so on. The continuous quality improvement and cost-reduction efforts were achieved by maintaining this structure (Fruin 1992). Large assemblers could effectively manage their interrelated sub-companies by only monitoring of the first tier of related companies. The rest of the tier companies were managed step by step. (Fruin 1992).

Nishiguchi (1992) stated that the subcontractor grading was that the subcontractors' performance was continuously evaluated by upper level of subcontractor in terms of product time, cost, quality, engineering, and other considerations. The subcontractors were assessed with grades or detailed scores in the evaluation periodically. The weakness of the subcontractor's performance was indicated for the improvement. This subcontractor grading system provided the large assembly company with an effective tool for tracking down dishonest supplier and rewarding competent suppliers. Those with better grades were rewarded with long-term commitments and more responsibility,

whereas those who had poor grades and fail to improve were down-graded to lower-tier suppliers (Nishiguchi 1994).

Large Japanese assembly company used the just-in-time manufacturing system of low inventory (James & Soonkyoo 1998). James & Soonkyoo (1998) stated that there was decentralization in quality control in Japanese companies. The sub-assembler took the responsibility of the inspection of part and components, rather than the final assembler. The quality was ensured primary by helping subcontractors improve their quality in the production lines, rather than by inspecting the incoming parts and components (Fruin 1992)

Fruin (1992) stated that that the mentioned institutional arrangements for sub-contracting in Japan were efficient in organizing interdependent productive activities of participating companies. These arrangements provided a strong basis for initiation and maintenance of mutual trust between the participating companies (James & Soonkyoo 1998).

James & Soonkyoo (1998) proposed that the inter-firm cooperation was not only maintained by the mentioned formal institutional arrangements. It was also maintained by social sanctions which were the mutual monitoring between the participants and the rapid distribution of information about the credibility of the participating companies in buyer-supplier networks.

James & Soonkyoo (1998) stated that 'the information about a dishonest subcontractor distribution quickly to other large assemblers through society's 'modern institutional fabric'. The consequence of quickly distribution of information was that any gained from dishonesty were quickly out-weighted by the negative reputation, making it extremely difficult to establishing long-term relationships with the assemblers. James & Soonkyoo (1998) defined this mechanism as social sanctions. The social sanctions were believed to a powerful social instrument for reducing the possibility of behaving opportunistic way. The cooperative relationship was further maintained by these social sanction (James & Soonkyoo 1998).

3. Methodology

This chapter discusses the methodology of this research. Firstly, the reason of carrying out this research will be discussed. Then the choice and setting of target sample will be discussed. Finally, the choice and reasons behind in setting of questionnaires will be discussed.

3.1 Significance of Research

Although Li el at. (2000) suggested that the future research should focus on the empirical studies on the performance measures and critical success factors, test models on the partnering models and processes, a more in-depth systemic analysis on the nature of partnering is needed (Bresnen & Marshall 2000). It is difficult to conclude that the improvement in performance is directly related to the partnering (Barlow el at. 1997). From the re-examination on the Japanese inter-firm cooperation, it suggests that the partnering tool only 're-produce' part of the physical arrangements. The other aspects such as the social culture are not covered by the partnering tool. It is important to investigate whether the partnering tool can help to develop or maintain the cooperative relationship in long-term. The cooperative relationship is emphasized especially in the partnering approach. It is because the reason for making the partnering approach different from the other co-working relationship such as Total Quality Management is that there is a clear strategy in developing and maintaining the cooperative relationship in long-term. Although the cooperative relationship can be developed in the Total Quality Management, there is no clear expression on strategy. The main strategy is developing a good vendor-to-customer relationship. Each party treats another party as its customer.

Before starting any empirical studies on the critical success factors which was suggested by Li el at. (2000), in-depth investigation on the core substance of partnering which is the cooperative relationship is needed. Otherwise, there is no foundation for the further development on the partnering approach.

Partnering cannot exist without the presence of cooperative relationship. The partnering tool is used to initiate, develop and maintain the cooperative relationship.

There are generally two methods for the measurement of performance of partnering. The first one is the measurement of performance of the individual project in short term or measurement of performance of a series of projects in long term. And the second one is the measurement of level of cooperation. In literature, a large amount of research (Baker 1990, Bennett and Jayes 1996, Larson 1997, Mosley and Moore 1994, T. Eckert 1994, Weston and Gibson 1993) on the measurement of partnering performance were the measurement of project performance in term of time, cost and quality.

The author believes that the measurement of the project performance of partnering in terms of time, cost and quality alone is not the most suitable way to evaluate the performance of the partnering. It is because the cooperative relationship is the core substance. The improvement in the project performance in term of time, cost and quality is the result of the cooperative working relationship. The measurement of project performance in term of time, cost and quality cannot represent the 'complete' performance of the partnering. It is because the project performance in term of time, cost and quality can be improved without the improvement in the cooperative relationship. The improvement in project performance in term of time, cost and quality can be caused by the partnering tool. The financial incentive is one forms of and the most used of partnering tool. There were lots of research showed that there was positive correlation of improvement of project performance in term of time, cost and quality with the partnering tool (Baker 1990, Bennett and Jayes 1996, Larson 1997, Mosley and Moore 1994, T. Eckert 1994, Weston and Gibson 1993). There is no strong evidence shows that the partnering tools are able to improve cooperative relationship.

Furthermore there were some literature (Bresnen and Marshall 2000, Green and McDermott 1996) suggested that the partnering tools could not universally applied to different type of projects and resolve different types of adversarial relationships. And the most valued contribution of partnering is highlighted for acting as the solution of the

adversarial culture. The adoption of partnering approach can change the adversarial culture to more cooperative culture. Therefore it is important to investigate whether the cooperation relationship is existed by adopting the partnering approach. In the literature, the importance of trust and commitment were frequency mentioned in the researches. They were considered as the most important factors which maintain cooperative relationship in the long-term and the success of partnering. It is suggested that there is a missed part in measurement of partnering performance when the project performance in term of time, cost and quality is measured alone without the measurement of cooperative relationship. Therefore the measurement on the cooperative relationship is suggested to supplementary this missed part.

In this dissertation, the trust level and commitment level are measured for the indication of level of the cooperative relationship. Although the factors affecting the cooperative relationship between parties were not limited to the trust, commitment and mutual goal, in the partnering related research, they were often discussed in associate with the cooperative relationship. It suggested that the researchers considered the trust, commitment and mutual goals relatively more related to the cooperative relationship. It was consensus in the business literature, not only the construction business, that trust was an important factor in making companies to cooperate each other. And the commitment was an important factor in keeping companies together in maintaining the relationship in the long-term. The mutual goal was the important factor to getting two 'stranger companies' together in order to beginning and maintaining the relationship. The detail was covered in literature review.

3.2 Research method

There are generally two types of research methods. They are quantitative and qualitative methods. (Cassell & Symon 1994) A qualitative method is a constructivist approach where there is no clear-cut objectivity and reality. And the quantitative method is considered as more scientific and reliable. It is because the relationship between two variables is established by statistical methods. The correlation between each variable can also be calculated. (Hollway 1991) Clear predictions of cause and effects are said to

permit generalizations. For this research, the qualitative method is more suitable. (Lau 2000) Qualitative methods are regarded as more appropriate for analysis of human behavior in a work setting because they focus on organizational process as well as outcomes in attempting to understand both individual and group experience of work. The trust level and commitment level is the measurement of human behavior. It is not suitable to adopt the quantitative behaviour which is essentially descriptive and consequent in nature.

(Lau 2000) The characteristics of qualitative research may be said to include a focus on interpretation rather than quantification. A concern with context as inextricably linked with behaviour and situation in forming experience. The objective of this research is not to investigate the correlation of different variable. For example, this research is not intended to investigate the correlation of partnering tools and the project performance. The objective of this research is to investigate whether the parties adopted partnering have higher trust level and commitment level than that of parties did not adopted partnering. Therefore the qualitative method is more suitable to be adopted in the research.

There are five common ways to carry out a research by qualitative method. They are experiment, archival analysis, history, case study and survey. The most suitable methods are case study and survey. Both of them are feasible method for this research. From the literature review, four contractors and two clients which with formal partnering experience were identified in different articles. And they were invited to participate in this research for providing data for case study. However some of them replied that they were unable to participate into the research due to prior work engagements. The survey method is used in this research. It can give an overall indicative result which is the intention of this research.

3.3 Research Objectives

This dissertation aims to investigate whether the level of cooperative relationship in term of trust level and commitment level of the formal partnering category, the informal partnering category and non-partnering category is in significant difference or not.

3.4 Research hypothesis

There is no difference in the level of cooperative relationship in term of trust level and commitment level of formal partnering category, informal partnering category and non-partnering category.

3.5 Research design

3.5.1 Outline of research plan

1. Collection of data

The questionnaire is used as a mean to collect the data. The rationale behind selection of questionnaire will be discussed in section 3.5.5. The rationale behind categorizing the sample and the method in sampling will be discussed in section 3.5.2 and 3.5.3 respectively. As the response rate in Hong Kong construction industry is low, the method to increase the response rate will be discussed in section 3.5.4.

2. Data Analysis

After collection of data from the questionnaire, there are three parts of data analysis. The part one is using the One-Way ANOVA for hypothesis testing of whether the level of cooperative relationship in term of trust level and commitment level of the formal partnering category, the informal partnering category and non-partnering category is in significant difference or not. The part two is using the One-Way ANOVA for hypothesis testing on the individual questions in the questionnaire in order to investigate whether the level of cooperative relationship in term of trust level and commitment level of the formal

partnering category, the informal partnering category and non-partnering category is in significant difference or not. The major difference between the part one and part two is that the basis of the hypothesis testing for the part one is the total (overall) score which is composed of 12 trust related questions and 15 commitment related questions of the individual respondents from the three categories. It is because the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. The least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

For the part two, the basis of the hypothesis testing is the score of individual questions. The significance of part two is to further investigate whether there is difference in the score of the individual questions between the three categories which are the formal partnering category, the informal partnering category and the non-partnering category. It is because the basis of the hypothesis testing of the part one is the total score. The differences between scores of individual questions are subjected to be averaged out when they are summarized up into the total score. And as mentioned before, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. The least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

The part three is using the ranking of the questions in the questionnaire to determine the relative importance of the questions. And the Kendall's coefficient of concordance (W) is used to test whether the ranking is indicative or not. The details of the hypothesis testing will be discussed in section 3.5.6. The three parts of the data analysis is carried out in sequence. Finally, if it is necessary, the follow questions will be sent to the respondents for further information. If there is significant difference in the level of cooperative relationship in term of trust level and commitment level of the formal partnering category, the informal partnering category and non-partnering category, the follow up questions will be sent to the respondents in order to figure out the reasons.

3. Data Discussion

The data will be discussed in term of the Part One, the Part Two and the Part Three in sequences.

3.5.2 Selection of sample

The survey method is used as the research methodology to study whether the trust level and commitment level of the projects which adopted Formal Partnering approach is higher than that of projects which did not adopted Formal Partnering approach.

The targeted respondents are the contractors which actually carrying out their business in Hong Kong. The targeted respondents of the survey are selected from three categories.

The first category is the contractor which have Formal Partnering Experience. The Formal Partnering defined as the partnering approach which is initiated, developed and maintained by a set of partnering tools common specified in the partnering related articles. For example, signing partnering charter, implementing partnering workshop and employing a partnering facilitator are the partnering tools. The details of partnering tolls were covered in the literature review.

The second category is the contractor which have Informal Partnering Experience. It is understandable to separate partnering projects and non-partnering projects. In this research, the partnering projects are on purposely divided into formal partnering projects and informal partnering projects. It is because the fundamental element of partnering is the cooperative relationship. The partnering tools is used to initiate, develop and maintain the partnering nature. It is possible for the partnering existed only with cooperative relationship but without the partnering tool. The partnering approach emphasizes on the continuous improvement for the project performance through the collaboration at high level of trust and commitment. It results in a win-win situation. However the existing of partnering without partnering tool cannot be easily identified. There is no physical observation unless the cooperative relationship is measured. The time period is one of

most important factor for evaluation of continuous improvement. And the development of trust and commitment and obtaining mutual objectives between difference parties also need a long period of time. Although long-term business relationship is not necessary for the development of high level of trust and commitment, for the purpose of collection of data for this research, the time factor is used to identify the informal partnering. Therefore the informal partnering is defined as a long-term business relationship which the Company always or often worked with or cooperated with.

The large firms had maintained long term business relationships with their small groups of contractors and had retained almost exclusive service from them (Chiang et al. 2001). This closely knitted network of business was characteristic of traditional Chinese management. (Redding 1990) The long term 'quan-xi' or personal trust was far more treasured than open competitive bidding. Liu & Fellows (2001) which stated that 'subcontracting arrangement s in the 1960s in Hong Kong worked on the basis of informal contracts in lot of instances. Trust between the main and sub-contractors was immense. This was akin to the observations of the Japanese construction industry.' (Lau 2000) In a non-partnering project, trust is believed to emerge as a result of a group of people having previously worked together or knowledge of each other or the job they do, and there are well-established rules and procedures for timely information exchange. The informal partnering project was defined and used to cover this category of projects.

The third category is the contractor which have No Formal and Informal Partnering Experience.

3.5.3 Structured sampling

For the first category, there was no database concerning the partnering project opened to the public. The method of finding the appropriate respondents was from the pervious studies on the partnering related topic, especially the case study. Due to the privacy issues, most of articles which adopted the use of the survey did not publish the name of the participated companies. However, some of the pervious articles used case studies.

And the project particulars were detailed stated in the case study. Therefore the name of the contractors which had Formal Partnering Experience could be obtained.

For the second category, there was also no database providing such information. The method of finding the appropriate respondents was from looking the subsidiaries of large developers in Hong Kong. (Chiang et al. 2001) Major developers in Hong Kong had their in-house or 'inner circle' contractors.

For the third category, the respondents were selected from the government's list in the Builder's Directory and the member list of the Hong Kong Contractor Association.

3.5.4 Method to increase the response rate

The response rate for research in Hong Kong construction industry is commonly known to be low. The questionnaires were sent by mail with the prepaid return envelope. And each questionnaire included a personal name which ensured that the questionnaire would actually reach the targeted respondents.

3.5.5 Rationale in Setting of Questionnaire

Before any discussion on the details of questionnaire, the reason in adopting a set of questions from the psychology aspect is emphasized. There were a lot of methods for the measuring the cooperation of partnering suggested in the case study. For example, a partnering monitor chart was developed to measure the performance of the partnering project in the case study on MTRC TKO. Although it was claimed that the partnering monitoring chart could reflect the partnering performance in term of project performances and cooperation level between the parties, it was too generalized in reflecting the cooperation level. For example, in the partnering monitoring chart, the trust was simply measured by giving rating on the word 'trust' without further elaboration. It is difficult to investigate whether the scale of trust by these generalized question. In fact, the understanding of trust and commitment requires extensive reading. Over-generalization on the measurement of trust and commitment may not measure the actual

scale of trust and commitment. The concept and measurement of trust and commitment were extensively discussed and developed in the psychology aspect, despite the fact that the concept and meaning of trust and commitment is still under a debate. Therefore the questionnaire in this dissertation was adopted from the questionnaires which was developed in the psychology aspect. The detail of selection of questionnaire will be discussed later. The author believed that the questionnaire could actually measure the trust level and commitment level.

The questionnaire is used to investigate the trust levels and commitment levels when the construction companies engaged in formal and informal partnering approach or no partnering approach. The questionnaire is consisted of 3 sections. Section A is concerning basic information of company. Section B and C are the questions concerning experience of working with other company in term of trust levels and commitment levels respectively.

The first question in Section A is concerning the role of the Company in the construction project. A construction company can be main contractor or sub contractor in different construction project.

The third questions in Section A is concerning the role of the partner in the construction project which adopted the formal or informal partnering or the role of an ordinary company having business with the company (respondent) in the construction project which did not adopt any form of partnering.

The second question in Section A is concerning whether the company (respondents) is local company or foreign company. From the answer of the first and the third questions, the relationship between the involved parties is known. It provides information on investigate whether the trust levels and commitment levels is different or not for different types of relationship. With the information provided by the second question, it helps to confirm the existence of closely knitted network of business (a type of informal

partnering) between large main contractor and sub contractor which is characteristic of traditional Chinese management.

The questionnaire is not set to measure the trust level and commitment level specifically in construction project which adopted the partnering approach. The questionnaire is designed to measure the formal partnering construction project, informal partnering project and the non-partnering project. As a single questionnaire measuring partnering and non-partnering projects, the fourth question requires the construction company (respondents) to indicate whether it adopted formal partnering, informal partnering or no partnering in answering the remaining part of questionnaire. The detailed definition of each type of partnering and instruction in completing the remaining part of questionnaire are given to the construction company (respondents).

The Section B is composed of two main sets of questions. The first set of question is the measurement of the trust levels. The second set of question is the measurement of the commitment level.

The first set of questionnaire is adopted from the Inter-Firm Trust Scale (Lau 2005). The Cummings and Bromiley (1996) proposed two sets of questionnaire which were short form and long form in order to measure the organizational trust. The selection of questions in the questionnaire was supported by the statistical method. The regression was used to find out which questions were the most appropriate in reflecting the trust of different dimensions which were covered in section 2.4. It implied that the questionnaire can measure the actual trust scale of different dimension of trust. Therefore the author believes that the short form is more appropriate for this research. According to the statistical evidence provided by Cummings and Bromiley (1996), the result of short form and long form were nearly the same. The short form gave a similar result with the long form. As the response rate is low in the Hong Kong construction industry, the author believes that a shorter time requirement in completion of the questionnaire can help to increase the response rate. Therefore the short form that only consists of 12 questions is more appropriate. However after comparing the questionnaire proposed by the

Cummings and Bromiley (1996) and the questionnaire proposed by the Lau (2005). The questionnaire which is Inter-Firm Trust Scale proposed by Lau (2005) who adopted and modified the questionnaire which was proposed by the Cummings and Bromiley (1996). The author believes that Lau (2002) is the most appropriate set of questionnaire which related to this research interests which aims at measuring the inter-firm trust level. The advantage of questionnaire that proposed by the Lau (2005) over the questionnaire that proposed by the Cummings and Bromiley (1996) is that the Lau (2005) made some adjustments which were addition of Rempel & Holmes trust scale (1986) which test the behaviour of a firm that used partnering to the questionnaire that proposed by the Cumming and Bromiley (1996) in order to cover the insufficiency and make the questionnaire more appropriate to measure the inter-firm trust scale. Therefore the Inter-Firm Trust Scale questionnaire is adopted. This set of questionnaire is consisted of 12 questions. Almost all of original words were used except slightly modification of wording in order to suit to this research. And some questions which related to measurement of keeping commitment was deleted. It is because the commitment level was measured by another set of questionnaire.

The second set of questionnaire was adopted from the Organizational Commitment Questionnaire (Porter et al. 1974). As it was discussed in the literature review, there were four bases of commitment. It implies that the commitment can arise from four bases. Different scales were developed to measure different bases of commitment. The affective commitment could be measured by the ACS (Meyer and Allen 1984). The continuance commitment could be measured by Continuance Commitment Scale (Allen and Meyer 1990). The Normative Commitment Scale could be measured by assessing general feelings of duty towards an object which was suggested buy Allan and Meyer (1990). Stephen Wailse (2002) stated that scales which were specific designed to measure a particular base of commitment were used, it was implied that they were measuring one or other form of commitment. Oliver (1990) suggested that the targets for commitment should be actions and not the objects. Stephen Swailes (2002) suggested that the OCQ was better measurement of commitment. It is because OCQ reflect features that might associate with commitment. The OCQ could provide a more complete picture about

commitment. Therefore the OCQ which suggested by Porter et al. (1979) was used. This set of questionnaire was consisted of 15 questions. The questions measured the commitment level in term of three main aspects. They were the respondent's perceptions which was about the loyalty toward the organization, his willingness to exert a great deal of effort to achieve organizational goals and his acceptance of the organization's values. Almost all of original words were used except slightly modification of wording in order to suit to this research.

The scale used in all questions in Section B are on 7-point Likert Scales. It ranges from "strongly disagree" to "strongly agree". In order to increase the reliability of the results, some questions are reversed which have negative score to reduce response set bias. The scoring method is attached in Appendix II.

3.5.6 Method of data analysis

There are three parts of the data analysis. The part one is to test the hypothesis that whether the overall trust and commitment level of the formal partnering category, the informal partnering category and the non-partnering category are statistically significant which 95% confidence interval is considered as statistically significant in difference. The part two is to test the hypothesis that whether the score of the individual questions (there is 27 questions in total) of the formal partnering category, the informal partnering category and the non-partnering category are statistically significant which 99% confidence interval is considered as statistically significant in difference. The part three is a further study on the each questions of the questionnaire in order to discover the relative importance of the individual questions. Both parts use the mean score method as basis for comparison.

The overall mean score of the set of questionnaire which consisted of 27 questions is calculated by the formula as follows:

$$OverallMeanScore = \frac{\sum(f * s)}{n}$$

f = frequency of response to each question (totally 27 questions)

n = total number of response concerning the set of questionnaire

s = score given to each question by the respondents and ranges from 1 to 7

The mean score of individual question is calculated by the formula as follows:

$$MeanScore = \frac{\sum(f * s)}{n}$$

f = frequency of response to each question

n = total number of response concerning that question

s = score given to each question by the respondents and ranges from 1 to 7

The data collected from the questionnaire is analysed using the mean score method. Three categories of projects which are formal partnering, informal partnering project and non-partnering are grouped for comparing the difference as mentioned before. The 7-point Likert scale which is 1 being strongly disagree and 7 being strongly agree is used to calculate the total mean score of 27 questions for three categories separately for first part of data analysis and to calculate the mean scores of individual questions for three categories separately for second part of data analysis.

Part One

For the part one of data analysis, both the T-test and ANOVA are applicable. However the ANOVA is more suitable for this research. It is because there are three categories of projects. There are formal partnering projects, informal partnering projects and non-partnering projects. Although the multiple T-test can be used for analyzing more than two categories of sample, the error is inherent in performing multiple T-tests.

For this research, three categories require three separate T-tests. They are test of formal partnering with informal partnering, test of formal partnering with non-partnering, and test of informal partnering with non-partnering. In each T-test, there is a 5% chance of a conclusion being wrong when the confident interval is at 95%. The three separate T-test would increase the probability of giving a false result. One-Way ANOVA is used to test whether the means of two or more groups are not significantly different. It can overcome the problem which mentioned above. The significant differences between the categories can be tested as a whole. It means that a single test can test whether there are differences between the means of three different categories at the chosen probability level.

One assumption of ANOVA is that the variances of the groups are equivalent (homogeneity of variance). Therefore Test for homogeneity of variance is used to determine whether the variances of the groups are equivalent or not. When the variances dependent variable are not equal across groups, the results of the ANOVA Table may not be valid. The Welch and Brown-Forsythe statistics are computed as alternatives to the usual F test in supplement to the ANOVA.

The Levene Statistic is used to test whether the variances of groups are equivalent or not. It provides information on whether transformation of data is needed before carrying out the One-Way ANOVA. Then the One-Way ANOVA is used for testing of research hypothesis which is 'There is no difference in the trust level and the commitment level of the formal Partnering category, the informal partnering and the non-partnering category.' However the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated. The LSD uses T-tests to perform all pairwise comparisons between group means. However there is no adjustment to the error rate for multiple comparisons. It is similar to the case of multiple T-test comparison as mentioned before. If the significant level of 0.05 was taken, it means that every comparison has the risk of 5% error. Three

comparisons are needed in order to test the three categories. There is risk of 15% error in total. Therefore the significant level will be taken at 0.01 which is 99% confidence interval. Then it is safely to make three comparisons and still have only over 95% confidence interval. When the variance of three category is not equal. The least significant difference (LSD cannot be used due to the requirement of equal variance. Tamhane Test is used. It is because there is no requirement on the equal variance of the Tamhane Test.

The hypotheses of Levene Statistic are as follow:

1. Test the data variance of the total mean score of the trust level and the commitment level in different categories.

H_0 (null hypothesis): There is homogeneity of variance in mean score of the trust level and the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

H_1(alternative hypothesis): There is data variance in mean score of the trust level and the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

2. Test the data variance of the mean score of the trust level in different categories.

H_0 (null hypothesis): There is homogeneity of variance in mean score of the trust level between the formal Partnering category, the informal partnering and the non-partnering category.

H_1(alternative hypothesis): There is data variance in mean score of the trust level between the formal Partnering category, the informal partnering and the non-partnering category.

3. Test the data variance of the mean score of the commitment level in different categories.

H_0 (null hypothesis): There is homogeneity of variance in mean score of the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

H_1(alternative hypothesis): There is data variance in mean score of the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

The hypotheses of One-Way ANOVA are as follow:

1. Testing the difference in total mean score of the trust level and the commitment level in different categories.

H_0 (null hypothesis): There is no difference in total mean score of the trust level and the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

H_1 (alternative hypothesis): There is difference in total mean score of the trust level and the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

2. Testing the difference in mean score of the trust level in different categories.

H_0 (null hypothesis): There is no difference in mean score of the trust level between the formal Partnering category, the informal partnering and the non-partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the trust level between the formal Partnering category, the informal partnering and the non-partnering category.

3. Testing the difference in mean score of the commitment level in different categories.

H_0 (null hypothesis): There is no difference in mean score of the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the commitment level between the formal Partnering category, the informal partnering and the non-partnering category.

The hypothesis of LSD is as follows:

1. Testing the difference in total mean score of the trust level and the commitment level in different categories.

LSD H (1)

H_0 (null hypothesis): There is no difference in total mean score of the trust level and the commitment level between the formal partnering category and the informal partnering category.

H_1 (alternative hypothesis): There is difference in total mean score of the trust level and the commitment level between the formal partnering category and the informal partnering category.

LSD H (2)

H_0 (null hypothesis): There is no difference in total mean score of the trust level and the commitment level between the formal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference total mean score of the trust level and the commitment level between the formal partnering category and the non-partnering category.

LSD H (3)

H_0 (null hypothesis): There is no difference in total mean score of the trust level and the commitment level between the informal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference in total mean score of the trust level and the commitment level between the informal partnering category and the non-partnering category.

2. Testing the difference in mean score of the trust level in different categories.

LSD H (4)

H_0 (null hypothesis): There is no difference in mean score of the trust level between the formal partnering category and the informal partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the trust level between the formal partnering category and the informal partnering category.

LSD H (5)

H_0 (null hypothesis): There is no difference in mean score of the trust level between the formal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the trust level between the formal partnering category and the non-partnering category.

LSD H (6)

H_0 (null hypothesis): There is no difference in mean score of the trust level between the informal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the trust level between the informal partnering category and the non-partnering category.

3. Testing the difference in mean score of the commitment level in different categories.

LSD H (7)

H_0 (null hypothesis): There is no difference in mean score of the commitment level between the formal partnering category and the informal partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the commitment level between the formal partnering category and the informal partnering category.

LSD H (8)

H_0 (null hypothesis): There is no difference in mean score of the commitment level between the formal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the commitment level between the formal partnering category and the non-partnering category.

LSD H (9)

H_0 (null hypothesis): There is no difference in mean score of the commitment level between the informal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference in mean score of the commitment level between the informal partnering category and the non-partnering category.

<u>Part Two</u>

For the part two of data analysis, both the T-test and ANOVA are applicable. However the ANOVA is more suitable for this research. It is because there are three categories of projects. There are formal partnering projects, informal partnering projects and non-

partnering projects. Although the multiple T-test can be used for analyzing more than two categories of sample, the error is inherent in performing multiple T-tests. The reason of the error in using multiple T-test was discussed before.

As mentioned before, one assumption of ANOVA is that the variances of the groups are equivalent (homogeneity of variance). Therefore Test for homogeneity of variance is used to determine whether the variances of the groups are equivalent or not. When the variances dependent variable are not equal across groups, the results of the ANOVA Table may not be valid. The Welch and Brown-Forsythe statistics are computed as alternatives to the usual F test in supplement to the ANOVA.

The Levene Statistic is used to test whether the variances of groups are equivalent or not. It provides information on whether transformation of data is needed before carrying out the One-Way ANOVA. Then the One-Way ANOVA is used for testing of research hypothesis which is 'There is no difference in the score of individual questions between the formal Partnering category, the informal partnering and the non-partnering category.' As mentioned before, however, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated. The LSD also is used to indicate whether the rating of the individual questions of the formal partnering category does not differ from that of the informal partnering category and non-partnering category. It gives some indication on whether the formal partnering can change the behaviors of the construction practitioners (respondents) or not. The LSD uses T-tests to perform all pairwise comparisons between group means. However there is no adjustment to the error rate for multiple comparisons. It is similar to the case of multiple T-test comparison as mentioned before. If the significant level of 0.05 was taken, it means that every comparison has the risk of 5% error. Three comparisons are needed in order to test the three categories. There is risk of 15% error in total. Therefore

the significant level will be taken at 0.01 which is 99% confidence interval. Then it is safely to make three comparisons and still have only over 95% confidence interval. When the variance of three category is not equal. The least significant difference (LSD cannot be used due to the requirement of equal variance. Tamhane Test is used. It is because there is no requirement on the equal variance of the Tamhane Test.

The hypotheses of Levene Statistic are as follow:

H_0 (null hypothesis): There is homogeneity of variance in score of the individual questions between the formal Partnering category, the informal partnering and the non-partnering category.

H_1(alternative hypothesis): There is data variance in score of the individual questions between the formal Partnering category, the informal partnering and the non-partnering category.

The hypotheses of One-Way ANOVA are as follow:

H_0 (null hypothesis): There is no difference in the score of the individual questions between the formal Partnering category, the informal partnering and the non-partnering category.

H_1 (alternative hypothesis): There is difference in score of the individual questions between the formal Partnering category, the informal partnering and the non-partnering category.

The hypotheses of LSD are as follows:

LSD H (Q1a-Q27a)
H_0 (null hypothesis): There is no difference in score of the (Q1a-Q27a) between the formal partnering category and the informal partnering category.

H_1 (alternative hypothesis): There is difference in score of the (Q1a-Q27a) between the formal partnering category and the informal partnering category.

LSD H (Q1b-Q27b)

H_0 (null hypothesis): There is no difference in score of the (Q1b-Q27b) between the formal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference score of the (Q1b-Q27b) between the formal partnering category and the non-partnering category.

LSD H (Q1c-Q27c)

H_0 (null hypothesis): There is no difference in score of the (Q1c-Q27c) between the informal partnering category and the non-partnering category.

H_1 (alternative hypothesis): There is difference in score of the (Q1c-Q27c) between the informal partnering category and the non-partnering category.

Part three

For the part three, the mean scores for individual questions are used to determine the relative ranking of individual questions by comparing the individual mean score for each questions in descending order of importance. These rankings are useful for the cross-comparison of the relative importance of each questions in order to discover the perceptions of the three categories' respondents on the trust concept and commitment concept. The method of calculation of mean score was covered before. Based on the nature of project, they were divided into three categories for analysis as mentioned before. Kendall's concordance analysis is conducted to measure the agreement of three categories' respondents within a category on their rankings of the questions. The Kendall's coefficient of concordance (W) is an important test in analyzing the rankings of the individual questions. It is because there is inherent error in direct ranking or mean score comparison without carrying out Kendall's (W) test. The ranking of questions was

obtained from direct comparison of mean score of the respondents. The mean score was the average of the individual score of individual respondent. The direct comparison of mean score could not reflect the actual ranking when the variance of score which was rated by the individual respondent was large. It was because there was a large overlapping of individual score from two samples.

If the Kendall's coefficient of concordance (W) was significant at the level of 0.05 which is 95% confidence interval, a reasonable degree is indicated. The Kendall's coefficient of concordance (W) is computed by the formula as follows (Siegel and Castellan 1988):

$$W = \frac{\sum_{i=1}^{n} (\overline{R_i} - \overline{R})^2}{n(n^2 - 1)/12}$$

n = number of questions being ranked

$\overline{R}_i$ = average of the ranks assigned to the *i*th question

$\overline{R}$ = the average of the ranks assigned across all questions

$\overline{R}$

The rankings by each respondent are transformed into matrix as the imported data from the calculation of the Kendall's coefficient of concordance (W) using the SPSS software. The hypothesis is as follows:

H_0 (null hypothesis): The respondents' ratings within a certain category are not related to each other.

H_1 (alternative hypothesis): The respondents' ratings within a certain category are related to each other.

The computation of statistical analyses which were mentioned above were undertaken using the statistical package for social sciences (SPSS 15).

3.5.7 Follow up Questions (if necessary)

After analyzing the received questionnaires, in case of there is large contradiction between the result of received data and the research hypothesis which there is a significant difference in mean score of trust level and commitment level between the three categories, the follow-up questions may be arranged in order to provide more detailed information which help to figure out the problems.

If the number of reply on the follow up questions is less than 50% which is 12 replies, the replies will not presented and will only be attached in the Appendix for reference.

3.5.8 Validity of the Research

Validity refers to the measurement of trust level and commitment level of the construction projects in Hong Kong which must include formal partnering projects, informal partnering projects and non-partnering projects. Three methods which are used to ensure the validity are stated as below.

1. The questions in the questionnaire are selected from extensive of literature review. It can actually measure the trust level and commitment level as it intended.

2. The targeted respondents are structurally planned. It ensures that the formal partnering projects, informal partnering projects and non-partnering projects are included in the sample.

3. The received data are analysis by three parts of statistical methods. These help to confirm the conclusion is valid.

4. Data Analysis

This chapter presents the received data. The data will be analyzed and presented in a systemic form for the discussion in the chapter 5.

4.1 Background of respondents

The research of this dissertation contained a set of questionnaire. The questionnaire was used to discover the trust level and commitment level of the construction parties in carrying out their construction projects. The purpose of this research is to find out the difference of trust level and commitment level between Formal Partnering Approach Project, Informal Partnering Approach Project and No Partnering approach Project.

100 questionnaires were sent out and 24 replies were received. It represented a response rate of 24%. The response rate for research in Hong Kong is commonly known to be very low. The 24% response rate is acceptable. And there were only three respondents indicated that they were willing to be interviewed. There was only one reply on the follow-up question. The follow up questions were carried out through email. It is because the respondent are so busy that cannot be arranged a face-to-face interview.

Please refer to appendix I for a sample of the questionnaire.

It is interesting to find out that some of the respondents are not willing to fill in the personal information which is the name of company and the respondents. It indicates two possibilities:

1. Although the Inform Consent Letter which is mailed together with the set of questionnaire to the respondents stated clearly that ” All data collected will be used solely for academic purpose and the identity of individuals will not be revealed without their consent.”, the respondents worried about their personal information will be revealed.

2. As all questionnaires included personal name and company address, the respondents may think that there is a remark on the questionnaire in order to identify their identities.

As the selection of sample is structurally planned, the returned questionnaires include the formal partnering, informal partnering and no partnering projects. It is a good representative sample of the industry regardless of there is the relatively high percentage of returned questionnaires which indicated the no partnering approach. It is quite understandable that the partnering approach is not the main stream of procurement approach in Hong Kong construction industry.

Returned Questionnaires	Percentage	Number of respondents
Formal Partnering Category	17%	4
Informal Partnering Category	25%	6
Non-Partnering Category	58%	14
Total	100%	24

Table 1: Distribution of the Returned Questionnaires

4.2 Part One Data Analysis

4.2.1 Total mean score for trust level and commitment level

The total mean score for trust level and commitment level is 119.5. And it ranges from 98 to 130.

Levene Statistic	Significant
0.060	0.942

Table 2: Test of Homogeneity of Variances for total mean score for trust level and commitment level

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value is 0.942 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Trust_and_Commitment_Levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	53.810	2	26.905	.274	.763
Within Groups	2060.190	21	98.104		
Total	2114.000	23			

Table 3: One-Way ANOVA on Total score for trust level and commitment level

There is no significant different in the total mean score for the trust level and commitment level. It is because the One-Way ANOVA shows that the significant value is 0.763 which exceeds 0.05(at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in total mean score of the trust level and the commitment level of construction contractors by the adopting of the Formal Partnering, Informal Partnering and Non-Partnering projects.

H_1 (alternative hypothesis): There is difference in total mean score of the trust level and the commitment level of construction contractors by the adopting of the Formal Partnering, Informal Partnering and Non-Partnering projects.

It does not reject the H_0 (null hypothesis) which there is no difference in the total mean score for the trust level and the commitment level. There is no significant difference for the total mean score for the trust level and the commitment level at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Trust_and_Commitment_Levels

LSD

(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnerin	1.33333	6.39350	.837	-16.7690	19.4356
	non partnering	3.71429	5.61547	.516	-12.1851	19.6137
informal partnerin	formal partnering	-1.33333	6.39350	.837	-19.4356	16.7690
	non partnering	2.38095	4.83303	.627	-11.3031	16.0650
non partnering	formal partnering	-3.71429	5.61547	.516	-19.6137	12.1851
	informal partnerin	-2.38095	4.83303	.627	-16.0650	11.3031

Table 4: LSD on Total score for trust level and commitment level

According to the table 4, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence interval is that there is no adjustment to the error rate for multiple comparisons in LSD. It is similar to the case of multiple T-test comparison as mentioned before. If the significant level of 0.05 was taken, it means that every comparison has the risk of 5% error. Three comparisons are needed in order to test the three categories. There is risk of 15% error in total. Therefore the significant level will be taken at 0.01 which is 99% confidence interval. Then it is safely to make three comparisons and still have only over 95% confidence interval. The details was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.837 which exceeds 0.01(at the 99% confidence

interval). The null hypothesis of LSD H (1) cannot be rejected. The detail of the hypothesis LSD H (1) was stated in 3.5.6. There is no difference in total mean score of the trust level and the commitment level between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.516 which exceeds 0.01(at the 99% confidence interval).. The null hypothesis of LSD H (2) cannot be rejected. The detail of the hypothesis LSD H (2) was stated in 3.5.6. There is no difference in total mean score of the trust level and the commitment level between the formal partnering category and the non-partnering category. at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.627 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (3) cannot be rejected. The detail of the hypothesis LSD H (3) was stated in 3.5.6. There is no difference in total mean score of the trust level and the commitment level between the informal partnering category and the non-partnering category.

4.2.2 Mean score for trust level

The mean score for trust level is 51.75. And it ranges from 41 to 59.

Levene Statistic	Significant
0.638	0.538

Table 5: Test of Homogeneity of Variances for mean score for trust level

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value is 0.538

which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Trust_Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.643	2	.321	.013	.987
Within Groups	531.857	21	25.327		
Total	532.500	23			

Table 6: One-Way ANOVA on score for trust level

There is no significant different in the mean score for the trust level. It is because the One-Way ANOVA shows that the significant value is 0.987 which exceeds 0.05(at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the trust level of construction contractors by the adopting of the Formal Partnering, Informal Partnering and Non-Partnering projects.

H_1 (alternative hypothesis): There is difference in mean score of the trust level of construction contractors by the adopting of the Formal Partnering, Informal Partnering and Non-Partnering projects.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score for the trust level. There is no significant difference for the mean score for the trust level at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Trust_Level
LSD

(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnerin	.50000	3.24850	.879	-8.6977	9.6977
	non partnering	.21429	2.85319	.941	-7.8641	8.2927
informal partnerin	formal partnering	-.50000	3.24850	.879	-9.6977	8.6977
	non partnering	-.28571	2.45563	.908	-7.2385	6.6671
non partnering	formal partnering	-.21429	2.85319	.941	-8.2927	7.8641
	informal partnerin	.28571	2.45563	.908	-6.6671	7.2385

Table 7: LSD on mean score for trust level

According to the table 7, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.879 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (4) cannot be rejected. The detail of the hypothesis LSD H (4) was stated in 3.5.6. There is no difference in score of the trust level between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.941 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (5) cannot be rejected. The detail of the hypothesis LSD H (5) was stated in 3.5.6. There is no difference in score of the trust level between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.908 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (6) cannot be rejected. The detail of the hypothesis LSD H (6) was stated in 3.5.6. There is no difference in score of the trust level between the informal partnering category and the non-partnering category.

4.2.3 Mean score for commitment level

The mean score for commitment level is 67.75. And it ranges from 57 to 76.

Levene Statistic	Significant
0.512	0.607

Table 8: Test of Homogeneity of Variances for mean score for commitment level

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value is 0.607 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Commitment_Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	54.167	2	27.083	.770	.476
Within Groups	738.333	21	35.159		
Total	792.500	23			

Table 9: One-Way ANOVA on mean score for commitment level

There is no significant different in the mean score for the trust level. It is because the One-Way ANOVA shows that the significant value is 0.476 which exceeds 0.05(at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the commitment level between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the commitment level between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score for the commitment level. There is no significant difference for the mean score for the commitment level at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Commitment_Level

LSD

(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnerin	.83333	3.82746	.830	-10.0036	11.6703
	non partnering	3.50000	3.36170	.310	-6.0182	13.0182
informal partnerin	formal partnering	-.83333	3.82746	.830	-11.6703	10.0036
	non partnering	2.66667	2.89329	.367	-5.5253	10.8586
non partnering	formal partnering	-3.50000	3.36170	.310	-13.0182	6.0182
	informal partnerin	-2.66667	2.89329	.367	-10.8586	5.5253

Table 10: LSD on mean score for commitment level

According to the table 10, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.830 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (7) cannot be rejected. The detail of the hypothesis LSD H (7) was stated in 3.5.6. There is no difference in score of the commitment level between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.310 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (8) cannot be rejected. The detail of the hypothesis LSD H (8) was stated in 3.5.6. There is no difference in score of the commitment level between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.367 which exceeds 0.01(at the 99% confidence interval). The

null hypothesis of LSD H (9) cannot be rejected. The detail of the hypothesis LSD H (9) was stated in 3.5.6. There is no difference in score of the commitment level between the informal partnering category and the non-partnering category.

4.3 Part Two Data Analysis

4.3.1 Data Analysis on the trust related questions (Q1 to Q12)

The question 1 (Q1) is that 'Company share information openly with 'Y' because it do not take advantage of Company.'

Levene Statistic	Significant
0.243	0.786

Table 11: Test of Homogeneity of Variances for mean score for Q1

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value is 0.786 exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q1score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.905	2	.452	.578	.570
Within Groups	16.429	21	.782		
Total	17.333	23			

Table 12: One-Way ANOVA on means score for Q1

There is no significant different in the mean score for the Q1. It is because the One-Way ANOVA shows that the significant value is 0.570 which exceeds 0.05(at the 95% confidence interval).
H_0 (null hypothesis): There is no difference in mean score of the Q1 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q1 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q1 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q1 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q1score
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.500	.571	.391	-1.12	2.12
	non-partnering	.071	.501	.888	-1.35	1.49
informal partnering	formal partnering	-.500	.571	.391	-2.12	1.12
	non-partnering	-.429	.432	.332	-1.65	.79
non-partnering	formal partnering	-.071	.501	.888	-1.49	1.35
	informal partnering	.429	.432	.332	-.79	1.65

Table 13: LSD on mean score for Q1

According to the table 13, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.391 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q1a) cannot be rejected. The detail of the hypothesis LSD H (Q1a) was stated in 3.5.6. There is no difference in score of the Q1 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.888 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q1b) cannot be rejected. The detail of the hypothesis LSD H (Q1b) was stated in 3.5.6. There is no difference in score of the Q1 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.332 which exceeds 0.01(at the 99% confidence interval). The

null hypothesis of LSD H (Q1c) cannot be rejected. The detail of the hypothesis LSD H (Q1c) was stated in 3.5.6. There is no difference in score of the Q1 between the informal partnering category and the non-partnering category.

The question 2 (Q2) is that 'Company monitor changes in situations so that 'Y' will not take advantages of such changes.'

Levene Statistic	Significant
0.550	0.585

Table 14: Test of Homogeneity of Variances for mean score for Q2

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value is 0.585 exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.446	2	.723	.884	.428
Within Groups	17.179	21	.818		
Total	18.625	23			

Table 15: One-Way ANOVA on means score for Q2

There is no significant different in the mean score for the Q2. It is because the One-Way ANOVA shows that the significant value is 0.428 which exceeds 0.05(at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q2 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q2 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q2 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q2 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q2
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.250	.584	.673	-1.90	1.40
	non-partnering	.321	.513	.538	-1.13	1.77
informal partnering	formal partnering	.250	.584	.673	-1.40	1.90
	non-partnering	.571	.441	.209	-.68	1.82
non-partnering	formal partnering	-.321	.513	.538	-1.77	1.13
	informal partnering	-.571	.441	.209	-1.82	.68

Table 16: LSD on mean score for Q2

According to the table 16, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.673 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q2a) cannot be rejected. The detail of the hypothesis LSD H (Q2a) was stated in 3.5.6. There is no difference in score of the Q2 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.538 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q2b) cannot be rejected. The detail of the hypothesis LSD H (Q2b) was stated in 3.5.6. There is no difference in score of the Q2 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.209 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q2c) cannot be rejected. The detail of the hypothesis LSD H (Q2c) was stated in 3.5.6. There is no difference in score of the Q2 between the informal partnering category and the non-partnering category.

The question 3 (Q3) is that 'In, negotiations, Company question 'Y''s statements regarding their capabilities.'

Levene Statistic	Significant
2.061	0.152

Table 17: Test of Homogeneity of Variances for mean score for Q3

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value is 0.152 exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q3

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.071	2	2.536	1.190	.324
Within Groups	44.762	21	2.132		
Total	49.833	23			

Table 18: One-Way ANOVA on means score for Q3

There is no significant different in the mean score for the Q3. It is because the One-Way ANOVA shows that the significant value is 0.324 exceeds 0.05(at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q3 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q3 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q3 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q3 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q3

LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	1.333	.942	.172	-1.33	4.00
	non-partnering	.429	.828	.610	-1.92	2.77
informal partnering	formal partnering	-1.333	.942	.172	-4.00	1.33
	non-partnering	-.905	.712	.218	-2.92	1.11
non-partnering	formal partnering	-.429	.828	.610	-2.77	1.92
	informal partnering	.905	.712	.218	-1.11	2.92

Table 19: LSD on mean score for Q3

According to the table 19, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.127 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q3a) cannot be rejected. The detail of the hypothesis LSD H (Q3a) was stated in 3.5.6. There is no difference in score of the Q3 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.610 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q3b) cannot be rejected. The detail of the hypothesis LSD H (Q3b) was stated in 3.5.6. There is no difference in score of the Q3 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.218 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q3c) cannot be rejected. The detail of the hypothesis LSD H (Q3c) was stated in 3.5.6. There is no difference in score of the Q3 between the informal partnering category and the non-partnering category.

The question 4 (Q4) is that 'Company knows how 'Y' is going to act. It can always be counted on to acts as Company expect'

Levene Statistic	Significant
0.213	0.810

Table 20: Test of Homogeneity of Variances for mean score for Q4

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant value of 0.810 exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.536	2	.268	.201	.819
Within Groups	27.964	21	1.332		
Total	28.500	23			

Table 21: One-Way ANOVA on means score for Q4

There is no significant different in the mean score for the Q4. It is because the One-Way ANOVA shows that the significant value is 0.819 exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q4 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q4 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q4 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q4 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q4
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.250	.745	.740	-1.86	2.36
	non-partnering	-.107	.654	.871	-1.96	1.75
informal partnering	formal partnering	-.250	.745	.740	-2.36	1.86
	non-partnering	-.357	.563	.533	-1.95	1.24
non-partnering	formal partnering	.107	.654	.871	-1.75	1.96
	informal partnering	.357	.563	.533	-1.24	1.95

Table 22: LSD on mean score for Q4

According to the table 22, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.740 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q4a) cannot be rejected. The detail of the hypothesis LSD H (Q4a) was stated in 3.5.6. There is no difference in score of the Q4 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.871 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q4b) cannot be rejected. The detail of the hypothesis LSD H (Q4b) was stated in 3.5.6. There is no difference in score of the Q4 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.533 which exceeds 0.01(at the 99% confidence interval). The null hypothesis of LSD H (Q4c) cannot be rejected. The detail of the hypothesis LSD H (Q4c) was stated in 3.5.6. There is no difference in score of the Q4 between the informal partnering category and the non-partnering category.

The question 5 (Q5) is that 'Company check 'Y''s actions to avoid being taken advantage of.'

Levene Statistic	Significant
0.397	0.677

Table 23: Test of Homogeneity of Variances for mean score for Q5

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.677 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q5

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.827	2	.414	.257	.776
Within Groups	33.798	21	1.609		
Total	34.625	23			

Table 24: One-Way ANOVA on means score for Q5

There is no significant different in the mean score for the Q5. It is because the One-Way ANOVA shows that the significant value is 0.776 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q5 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q5 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q5 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q5 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q5
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.583	.819	.484	-1.74	2.90
	non-partnering	.393	.719	.591	-1.64	2.43
informal partnering	formal partnering	-.583	.819	.484	-2.90	1.74
	non-partnering	-.190	.619	.761	-1.94	1.56
non-partnering	formal partnering	-.393	.719	.591	-2.43	1.64
	informal partnering	.190	.619	.761	-1.56	1.94

Table 25: LSD on mean score for Q5

According to the table 25, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.484 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q5a) cannot be rejected. The detail of the hypothesis LSD H (Q5a) was stated in 3.5.6. There is no difference in score of the Q5 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.591 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q5b) cannot be rejected. The detail of the hypothesis LSD H (Q5b) was stated in 3.5.6. There is no difference in score of the Q5 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.761 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q5c) cannot be rejected. The detail of the hypothesis LSD H (Q5c) was stated in 3.5.6. There is no difference in score of the Q5 between the informal partnering category and the non-partnering category.

The question 6 (Q6) is that 'Company work openly with 'Y' because it will not take advantage of Company.'

Levene Statistic	Significant
0.088	0.916

Table 26: Test of Homogeneity of Variances for mean score for Q6

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.916 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q6

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.411	2	5.705	2.690	.091
Within Groups	44.548	21	2.121		
Total	55.958	23			

Table 27: One-Way ANOVA on means score for Q6

There is no significant different in the mean score for the Q6. It is because the One-Way ANOVA shows that the significant value is 0.091 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q6 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q6 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q6 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q6 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q6

LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	2.167	.940	.031	-.50	4.83
	non-partnering	1.143	.826	.181	-1.20	3.48
informal partnering	formal partnering	-2.167	.940	.031	-4.83	.50
	non-partnering	-1.024	.711	.164	-3.04	.99
non-partnering	formal partnering	-1.143	.826	.181	-3.48	1.20
	informal partnering	1.024	.711	.164	-.99	3.04

Table 28: LSD on mean score for Q6

According to the table 28, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.031 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q6a) cannot be rejected. The detail of the hypothesis LSD H (Q6a) was stated in 3.5.6. There is no difference in score of the Q6 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.181 which exceeds 0.01 (99% confidence interval. The null

hypothesis of LSD H (Q6b) cannot be rejected. The detail of the hypothesis LSD H (Q6b) was stated in 3.5.6. There is no difference in score of the Q6 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.164 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q6c) cannot be rejected. The detail of the hypothesis LSD H (Q6c) was stated in 3.5.6. There is no difference in score of the Q6 between the informal partnering category and the non-partnering category.

The question 7 (Q7) is that 'Company monitor 'Y' closely so that they cannot take advantage of Company.'

Levene Statistic	Significant
0.142	0.868

Table 29: Test of Homogeneity of Variances for mean score for Q7

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.868 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q7

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.393	2	1.696	1.347	.281
Within Groups	26.440	21	1.259		
Total	29.833	23			

Table 30: One-Way ANOVA on means score for Q7

There is no significant different in the mean score for the Q7. It is because the One-Way ANOVA shows that the significant value is 0.281 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q7 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q7 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q7 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q7 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q7
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	1.083	.724	.150	-.97	3.13
	non-partnering	.964	.636	.144	-.84	2.77
informal partnering	formal partnering	-1.083	.724	.150	-3.13	.97
	non-partnering	-.119	.548	.830	-1.67	1.43
non-partnering	formal partnering	-.964	.636	.144	-2.77	.84
	informal partnering	.119	.548	.830	-1.43	1.67

Table 31: LSD on mean score for Q7

According to the table 31, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.150 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q7a) cannot be rejected. The detail of the hypothesis LSD H (Q7a) was stated in 3.5.6. There is no difference in score of the Q7 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.144 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q7b) cannot be rejected. The detail of the hypothesis LSD H (Q7b) was stated in 3.5.6. There is no difference in score of the Q7 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.830 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q7c) cannot be rejected. The detail of the hypothesis LSD H (Q7c)

was stated in 3.5.6. There is no difference in score of the Q7 between the informal partnering category and the non-partnering category.

The question 8 (Q8) is that 'Company cannot always be sure what 'Y' will surprise Company next as its action tends to be quiet variable.'

Levene Statistic	Significant
2.394	0.116

Table 32: Test of Homogeneity of Variances for mean score for Q8

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.116 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q8

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.250	2	1.125	.597	.560
Within Groups	39.583	21	1.885		
Total	41.833	23			

Table 33: One-Way ANOVA on means score for Q8

There is no significant different in the mean score for the Q7. It is because the One-Way ANOVA shows that the significant value is 0.560 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q8 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q8 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q8 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q8 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q8

LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.917	.886	.313	-1.59	3.43
	non-partnering	.750	.778	.346	-1.45	2.95
informal partnering	formal partnering	-.917	.886	.313	-3.43	1.59
	non-partnering	-.167	.670	.806	-2.06	1.73
non-partnering	formal partnering	-.750	.778	.346	-2.95	1.45
	informal partnering	.167	.670	.806	-1.73	2.06

Table 34: LSD on mean score for Q8

According to the table 34, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.313 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q8a) cannot be rejected. The detail of the hypothesis LSD H (Q8a) was stated in 3.5.6. There is no difference in score of the Q8 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.346 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q8b) cannot be rejected. The detail of the hypothesis LSD H (Q8b) was stated in 3.5.6. There is no difference in score of the Q8 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.806 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q8c) cannot be rejected. The detail of the hypothesis LSD H (Q8c) was stated in 3.5.6. There is no difference in score of the Q8 between the informal partnering category and the non-partnering category.

The question 9 (Q9) is that 'Company monitors the compliance of 'Y' in fulfilling joint agreements.'

Levene Statistic	Significant
0.141	0.869

Table 35: Test of Homogeneity of Variances for mean score for Q9

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the

variance of three categories is homogeneous. It is because the significant valve is 0.869 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q9

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.821	2	3.411	3.767	.040
Within Groups	19.012	21	.905		
Total	25.833	23			

Table 36: One-Way ANOVA on means score for Q9

There is no significant different in the mean score for the Q9. It is because the One-Way ANOVA shows that the significant value is 0.040 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q9 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q9 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q9 between the formal partnering category, the informal partnering category and the non-partnering category. There is no significant difference for the mean score for the Q9 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q9
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	1.583	.614	.018	-.16	3.32
	non-partnering	1.321	.539	.023	-.21	2.85
informal partnering	formal partnering	-1.583	.614	.018	-3.32	.16
	non-partnering	-.262	.464	.579	-1.58	1.05
non-partnering	formal partnering	-1.321	.539	.023	-2.85	.21
	informal partnering	.262	.464	.579	-1.05	1.58

Table 37: LSD on mean score for Q9

According to the table 37, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.018 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q9a) cannot be rejected. The detail of the hypothesis LSD H (Q9a) was stated in 3.5.6. There is no difference in score of the Q9 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.346 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q8b) cannot be rejected. The detail of the hypothesis LSD H (Q8b) was stated in 3.5.6. There is no difference in score of the Q8 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.023 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q9c) cannot be rejected. The detail of the hypothesis LSD H (Q9c) was stated in 3.5.6. There is no difference in score of the Q9 between the informal partnering category and the non-partnering category.

The question 10 (Q10) is that 'Company watch for misleading information from 'Y' in negotiations.'

Levene Statistic	Significant
0.348	0.710

Table 38: Test of Homogeneity of Variances for mean score for Q10

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.710 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q10

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.369	2	.685	.400	.676
Within Groups	35.964	21	1.713		
Total	37.333	23			

Table 39: One-Way ANOVA on means score for Q10

There is no significant different in the mean score for the Q10. It is because the One-Way ANOVA shows that the significant value is 0.676 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q10 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q10 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q10 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q10
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.250	.845	.770	-2.64	2.14
	non-partnering	-.607	.742	.422	-2.71	1.49
informal partnering	formal partnering	.250	.845	.770	-2.14	2.64
	non-partnering	-.357	.639	.582	-2.17	1.45
non-partnering	formal partnering	.607	.742	.422	-1.49	2.71
	informal partnering	.357	.639	.582	-1.45	2.17

Table 40: LSD on mean score for Q10

According to the table 40, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.770 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q10a) cannot be rejected. The detail of the hypothesis LSD H (Q10a) was stated in 3.5.6. There is no difference in score of the Q10 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.422 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q10b) cannot be rejected. The detail of the hypothesis LSD H (Q10b) was stated in 3.5.6. There is no difference in score of the Q10 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.582 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q10c) cannot be rejected. The detail of the hypothesis LSD H

(Q10c) was stated in 3.5.6. There is no difference in score of the Q10 between the informal partnering category and the non-partnering category.

The question 11 (Q11) is that 'Company watch to see whether 'Y' meets its deadlines.'

Levene Statistic	Significant
0.930	0.410

Table 41: Test of Homogeneity of Variances for mean score for Q11

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.410 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q11

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.500	2	.250	.342	.714
Within Groups	15.333	21	.730		
Total	15.833	23			

Table 42: One-Way ANOVA on means score for Q11

There is no significant different in the mean score for the Q11. It is because the One-Way ANOVA shows that the significant value is 0.714 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q11 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q11 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q11 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q11
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.333	.552	.552	-1.23	1.90
	non-partnering	.000	.484	1.000	-1.37	1.37
informal partnering	formal partnering	-.333	.552	.552	-1.90	1.23
	non-partnering	-.333	.417	.433	-1.51	.85
non-partnering	formal partnering	.000	.484	1.000	-1.37	1.37
	informal partnering	.333	.417	.433	-.85	1.51

Table 43: LSD on mean score for Q11

According to the table 43, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.552 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q11a) cannot be rejected. The detail of the hypothesis LSD H (Q11a) was stated in 3.5.6. There is no difference in score of the Q11 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 1.000 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q11b) cannot be rejected. The detail of the hypothesis LSD H (Q11b) was stated in 3.5.6. There is no difference in score of the Q11 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.433 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q11c) cannot be rejected. The detail of the hypothesis LSD H (Q11c) was stated in 3.5.6. There is no difference in score of the Q11 between the informal partnering category and the non-partnering category.

The question 12 (Q12) is that 'Company cannot always be certain how 'Y' is going to act from one day to another as 'Y' is not very predictable.'

Levene Statistic	Significant
3.773	0.040

Table 44: Test of Homogeneity of Variances for mean score for Q12

The Test of Homogeneity of Variances confirmed that it reject the H_0 (null hypothesis) which the category's variances are equal. It is not safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.040 which does not exceed 0.05(at the 95% confidence interval). The One-Way ANOVA cannot be used alone to in this research. It is because when the variances dependent variable are not

equal across groups, the results of the ANOVA Table may not be valid. The Welch and Brown-Forsythe statistics are computed as alternatives to the usual F test in supplement to the ANOVA.

ANOVA

Q12

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.452	2	.226	.103	.902
Within Groups	46.048	21	2.193		
Total	46.500	23			

Table 45: One-Way ANOVA on means score for Q12

Robust Tests of Equality of Means

Q12

	Statistic[a]	df1	df2	Sig.
Welch	.079	2	6.883	.925
Brown-Forsythe	.070	2	4.934	.933

a. Asymptotically F distributed.

Table 46: Welch Test and Brown-Forsythe Test on mean score for Q12

There is no significant difference in the mean score for the Q12. It is because the One-Way ANOVA shows that the significant value is 0.902 which exceeds 0.05 (at the 95% confidence interval). And the Welch Test and Brown-Forsythe Test also confirmed that there is no significant difference.

H_0 (null hypothesis): There is no difference in mean score of the Q12 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q12 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q12 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

As there the variance of three category is not equal. Therefore the least significant difference (LSD) between any two means cannot be used in order to indicate which categories differ from one another. Tamhane Test is used. It is because there is no requirement on the equal variance of the Tamhane Test.

Multiple Comparisons

Dependent Variable: Q12

Tamhane

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.167	1.289	.999	-5.20	5.54
	non-partnering	.357	1.276	.991	-5.09	5.80
informal partnering	formal partnering	-.167	1.289	.999	-5.54	5.20
	non-partnering	.190	.537	.980	-1.28	1.66
non-partnering	formal partnering	-.357	1.276	.991	-5.80	5.09
	informal partnering	-.190	.537	.980	-1.66	1.28

Table 47: Tamhane Test on mean score for Q12

According to the table 43, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.999 which exceeds 0.01 (99% confidence interval). The

null hypothesis of LSD H (Q12a) cannot be rejected. The detail of the hypothesis LSD H (Q12a) was stated in 3.5.6. There is no difference in score of the Q12 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.991 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q12b) cannot be rejected. The detail of the hypothesis LSD H (Q12b) was stated in 3.5.6. There is no difference in score of the Q12 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.980 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q12c) cannot be rejected. The detail of the hypothesis LSD H (Q12c) was stated in 3.5.6. There is no difference in score of the Q12 between the informal partnering category and the non-partnering category.

4.3.2 Data Analysis on the commitment related questions (Q12 to Q27)

The question 13 (Q13) is that 'Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.'

Levene Statistic	Significant
0.844	0.444

Table 48: Test of Homogeneity of Variances for mean score for Q13

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.444 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q13

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.893	2	.446	.508	.609
Within Groups	18.440	21	.878		
Total	19.333	23			

Table 49: One-Way ANOVA on means score for Q13

There is no significant different in the mean score for the Q13. It is because the One-Way ANOVA shows that the significant value is 0.609 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q13 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q13 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q13 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q13
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.417	.605	.498	-2.13	1.30
	non-partnering	.036	.531	.947	-1.47	1.54
informal partnering	formal partnering	.417	.605	.498	-1.30	2.13
	non-partnering	.452	.457	.334	-.84	1.75
non-partnering	formal partnering	-.036	.531	.947	-1.54	1.47
	informal partnering	-.452	.457	.334	-1.75	.84

Table 50: LSD on mean score for Q13

According to the table 50, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.498 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q13a) cannot be rejected. The detail of the hypothesis LSD H (Q13a) was stated in 3.5.6. There is no difference in score of the Q13 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.947 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q13b) cannot be rejected. The detail of the hypothesis LSD H (Q13b) was stated in 3.5.6. There is no difference in score of the Q13 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.334 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q13c) cannot be rejected. The detail of the hypothesis LSD H

(Q13c) was stated in 3.5.6. There is no difference in score of the Q13 between the informal partnering category and the non-partnering category.

The question 14 (Q14) is that 'Company talks up the 'X relationship' to other companies as a great relationship to work for.'

Levene Statistic	Significant
1.466	0.253

Table 51: Test of Homogeneity of Variances for mean score for Q14

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.253 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q14

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.893	2	.446	1.111	.348
Within Groups	8.440	21	.402		
Total	9.333	23			

Table 52: One-Way ANOVA on means score for Q14

There is no significant different in the mean score for the Q14. It is because the One-Way ANOVA shows that the significant value is 0.348 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q14 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q14 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q14 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q14
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.417	.409	.320	-.74	1.58
	non-partnering	-.036	.359	.922	-1.05	.98
informal partnering	formal partnering	-.417	.409	.320	-1.58	.74
	non-partnering	-.452	.309	.158	-1.33	.42
non-partnering	formal partnering	.036	.359	.922	-.98	1.05
	informal partnering	.452	.309	.158	-.42	1.33

Table 53: LSD on mean score for Q14

According to the table 53, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.320 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q14a) cannot be rejected. The detail of the hypothesis LSD H (Q14a) was stated in 3.5.6. There is no difference in score of the Q14 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.922 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q14b) cannot be rejected. The detail of the hypothesis LSD H (Q14b) was stated in 3.5.6. There is no difference in score of the Q14 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.158 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q14c) cannot be rejected. The detail of the hypothesis LSD H (Q14c) was stated in 3.5.6. There is no difference in score of the Q14 between the informal partnering category and the non-partnering category.

The question 15 (Q15) is that 'Company feels very little loyalty to the 'X relationship'.'

Levene Statistic	Significant
0.206	0.816

Table 54: Test of Homogeneity of Variances for mean score for Q15

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.816 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q15

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.726	2	.363	.177	.839
Within Groups	43.107	21	2.053		
Total	43.833	23			

Table 55: One-Way ANOVA on means score for Q15

There is no significant different in the mean score for the Q15. It is because the One-Way ANOVA shows that the significant value is 0.839 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q15 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q15 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q15 between the formal partnering category, the informal partnering category and between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q15
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.250	.925	.790	-2.87	2.37
	non-partnering	-.464	.812	.574	-2.76	1.84
informal partnering	formal partnering	.250	.925	.790	-2.37	2.87
	non-partnering	-.214	.699	.762	-2.19	1.77
non-partnering	formal partnering	.464	.812	.574	-1.84	2.76
	informal partnering	.214	.699	.762	-1.77	2.19

Table 56: LSD on mean score for Q15

According to the table 56, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.790 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q15a) cannot be rejected. The detail of the hypothesis LSD H (Q15a) was stated in 3.5.6. There is no difference in score of the Q15 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.574 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q15b) cannot be rejected. The detail of the hypothesis LSD H (Q15b) was stated in 3.5.6. There is no difference in score of the Q15 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.762 which exceeds 0.01 (99% confidence interval. The null

hypothesis of LSD H (Q15c) cannot be rejected. The detail of the hypothesis LSD H (Q15c) was stated in 3.5.6. There is no difference in score of the Q15 between the informal partnering category and the non-partnering category.

The question 16 (Q16) is that 'Company would accept almost any type of job assignment in order to keep working for the 'X relationship''

Levene Statistic	Significant
2.640	0.095

Table 57: Test of Homogeneity of Variances for mean score for Q16

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.095 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q16

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.500	2	.250	.192	.827
Within Groups	27.333	21	1.302		
Total	27.833	23			

Table 58: One-Way ANOVA on means score for Q16

There is no significant different in the mean score for the Q16. It is because the One-Way ANOVA shows that the significant value is 0.827 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q16 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q16 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q16 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q16 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q16
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.333	.736	.655	-2.42	1.75
	non-partnering	.000	.647	1.000	-1.83	1.83
informal partnering	formal partnering	.333	.736	.655	-1.75	2.42
	non-partnering	.333	.557	.556	-1.24	1.91
non-partnering	formal partnering	.000	.647	1.000	-1.83	1.83
	informal partnering	-.333	.557	.556	-1.91	1.24

Table 59: LSD on mean score for Q16

According to the table 59, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.655 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q16a) cannot be rejected. The detail of the hypothesis LSD H (Q16a) was stated in 3.5.6. There is no difference in score of the Q16 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 1.000 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q16b) cannot be rejected. The detail of the hypothesis LSD H (Q16b) was stated in 3.5.6. There is no difference in score of the Q16 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.556 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q16c) cannot be rejected. The detail of the hypothesis LSD H (Q16c) was stated in 3.5.6. There is no difference in score of the Q16 between the informal partnering category and the non-partnering category.

The question 17 (Q17) is that 'Company finds that its values and the 'X relationship''s values are very similar.'

Levene Statistic	Significant
0.263	0.772

Table 60: Test of Homogeneity of Variances for mean score for Q17

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.772 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q17

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.077	2	1.039	1.738	.200
Within Groups	12.548	21	.598		
Total	14.625	23			

Table 61: One-Way ANOVA on means score for Q17

There is no significant different in the mean score for the Q17. It is because the One-Way ANOVA shows that the significant value is 0.200 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q17 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q17 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q17 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q17 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q17
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.333	.499	.511	-1.75	1.08
	non-partnering	.357	.438	.424	-.88	1.60
informal partnering	formal partnering	.333	.499	.511	-1.08	1.75
	non-partnering	.690	.377	.081	-.38	1.76
non-partnering	formal partnering	-.357	.438	.424	-1.60	.88
	informal partnering	-.690	.377	.081	-1.76	.38

Table 62: LSD on mean score for Q17

According to the table 62, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.511 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q17a) cannot be rejected. The detail of the hypothesis LSD H (Q17a) was stated in 3.5.6. There is no difference in score of the Q17 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.424 which exceeds 0.01 (99% confidence interval. The null

hypothesis of LSD H (Q17b) cannot be rejected. The detail of the hypothesis LSD H (Q17b) was stated in 3.5.6. There is no difference in score of the Q17 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.081 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q17c) cannot be rejected. The detail of the hypothesis LSD H (Q17c) was stated in 3.5.6. There is no difference in score of the Q17 between the informal partnering category and the non-partnering category.

The question 18 (Q18) is that 'Company is proud to tell other companies that Company is part of the 'X relationship''.

Levene Statistic	Significant
1.715	0.204

Table 63: Test of Homogeneity of Variances for mean score for Q18

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.204 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q18

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.321	2	1.161	.696	.510
Within Groups	35.012	21	1.667		
Total	37.333	23			

Table 64: One-Way ANOVA on means score for Q18

There is no significant different in the mean score for the Q18. It is because the One-Way ANOVA shows that the significant value is 0.510 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q18 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q18 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q18 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q18 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q18
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.417	.833	.622	-1.94	2.78
	non-partnering	.821	.732	.274	-1.25	2.89
informal partnering	formal partnering	-.417	.833	.622	-2.78	1.94
	non-partnering	.405	.630	.528	-1.38	2.19
non-partnering	formal partnering	-.821	.732	.274	-2.89	1.25
	informal partnering	-.405	.630	.528	-2.19	1.38

Table 65: LSD on mean score for Q18

According to the table 65, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.622 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q18a) cannot be rejected. The detail of the hypothesis LSD H (Q18a) was stated in 3.5.6. There is no difference in score of the Q18 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.274 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q18b) cannot be rejected. The detail of the hypothesis LSD H (Q18b) was stated in 3.5.6. There is no difference in score of the Q18 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.528 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q18c) cannot be rejected. The detail of the hypothesis LSD H

(Q18c) was stated in 3.5.6. There is no difference in score of the Q18 between the informal partnering category and the non-partnering category.

The question 19 (Q19) is that ‘‘Company could just as well be working for a different relationship as long as the type of work were similar.’

Levene Statistic	Significant
4.149	0.030

Table 66: Test of Homogeneity of Variances for mean score for Q19

The Test of Homogeneity of Variances confirmed that it reject the H_0 (null hypothesis) which the category’s variances are equal. It is not safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.030 which does not exceed 0.05(at the 95% confidence interval). The One-Way ANOVA cannot be used alone to in this research. It is because when the variances dependent variable are not equal across groups, the results of the ANOVA Table may not be valid. The Welch and Brown-Forsythe statistics are computed as alternatives to the usual F test in supplement to the ANOVA.

ANOVA

Q19

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.310	2	.155	.201	.820
Within Groups	16.190	21	.771		
Total	16.500	23			

Table 67: One-Way ANOVA on means score for Q19

Robust Tests of Equality of Means

Q19

	Statistic[a]	df1	df2	Sig.
Welch	.075	2	6.910	.929
Brown-Forsythe	.109	2	3.829	.899

a. Asymptotically F distributed.

Table 68: Welch Test and Brown-Forsythe Test on mean score for Q19

There is no significant difference in the mean score for the Q19. It is because the One-Way ANOVA shows that the significant value is 0.820 which exceeds 0.05 (at the 95% confidence interval). And the Welch Test and Brown-Forsythe Test also confirmed that there is no significant difference.

H_0 (null hypothesis): There is no difference in mean score of the Q19 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q19 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q19 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

As there the variance of three category is not equal. Therefore the least significant difference (LSD) between any two means cannot be used in order to indicate which

categories differ from one another. Tamhane Test is used. It is because there is no requirement on the equal variance of the Tamhane Test.

Multiple Comparisons

Dependent Variable: Q19
Tamhane

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.333	.882	.980	-4.35	3.68
	non-partnering	-.286	.886	.987	-4.26	3.69
informal partnering	formal partnering	.333	.882	.980	-3.68	4.35
	non-partnering	.048	.250	.997	-.62	.72
non-partnering	formal partnering	.286	.886	.987	-3.69	4.26
	informal partnering	-.048	.250	.997	-.72	.62

Table 69: Tamhane Test on mean score for Q19

According to the table 69, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.980 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q19a) cannot be rejected. The detail of the hypothesis LSD H (Q19a) was stated in 3.5.6. There is no difference in score of the Q19 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.987 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q19b) cannot be rejected. The detail of the hypothesis LSD H (Q19b) was stated in 3.5.6. There is no difference in score of the Q19 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.997 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q19c) cannot be rejected. The detail of the hypothesis LSD H (Q19c) was stated in 3.5.6. There is no difference in score of the Q19 between the informal partnering category and the non-partnering category.

The question 20 (Q20) is that 'The 'X relationship' really inspires the best in Company in the way of job performance.'.

Levene Statistic	Significant
5.314	0.014

Table 70: Test of Homogeneity of Variances for mean score for Q20

The Test of Homogeneity of Variances confirmed that it reject the H_0 (null hypothesis) which the category's variances are equal. It is not safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.014 which does not exceed 0.05(at the 95% confidence interval). The One-Way ANOVA cannot be used alone to in this research. It is because when the variances dependent variable are not equal across groups, the results of the ANOVA Table may not be valid. The Welch and Brown-Forsythe statistics are computed as alternatives to the usual F test in supplement to the ANOVA.

ANOVA

Q20

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.286	2	.643	1.344	.282
Within Groups	10.048	21	.478		
Total	11.333	23			

Table 71: One-Way ANOVA on means score for Q19

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Q20

	Statistic[a]	df1	df2	Sig.
Welch	1.038	2	5.806	.412
Brown-Forsythe	.897	2	7.661	.447

a. Asymptotically F distributed.

Table 72: Welch Test and Brown-Forsythe Test on mean score for Q20

There is no significant difference in the mean score for the Q20. It is because the One-Way ANOVA shows that the significant value is 0.282 which exceeds 0.05 (at the 95% confidence interval). And the Welch Test and Brown-Forsythe Test also confirmed that there is no significant difference.

H_0 (null hypothesis): There is no difference in mean score of the Q20 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q20 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q20 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

As there the variance of three category is not equal. Therefore the least significant difference (LSD) between any two means cannot be used in order to indicate which

categories differ from one another. Tamhane Test is used. It is because there is no requirement on the equal variance of the Tamhane Test.

Multiple Comparisons

Dependent Variable: Q20
Tamhane

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.167	.573	.989	-2.25	2.58
	non-partnering	-.357	.305	.673	-2.40	1.69
informal partnering	formal partnering	-.167	.573	.989	-2.58	2.25
	non-partnering	-.524	.504	.716	-3.04	1.99
non-partnering	formal partnering	.357	.305	.673	-1.69	2.40
	informal partnering	.524	.504	.716	-1.99	3.04

Table 73: Tamhane Test on mean score for Q20

According to the table 73, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.989 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q20a) cannot be rejected. The detail of the hypothesis LSD H (Q20a) was stated in 3.5.6. There is no difference in score of the Q20 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.673 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q20b) cannot be rejected. The detail of the hypothesis LSD H (Q20b) was stated in 3.5.6. There is no difference in score of the Q20 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.716 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q20c) cannot be rejected. The detail of the hypothesis LSD H (Q20c) was stated in 3.5.6. There is no difference in score of the Q20 between the informal partnering category and the non-partnering category.

The question 21 (Q21) is that 'It would take very little change in present circumstances to cause Company to leave the 'X relationship''.

Levene Statistic	Significant
0.806	0.460

Table 74: Test of Homogeneity of Variances for mean score for Q21

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.460 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q21

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.393	2	.696	.380	.688
Within Groups	38.440	21	1.830		
Total	39.833	23			

Table 75: One-Way ANOVA on means score for Q21

There is no significant different in the mean score for the Q18. It is because the One-Way ANOVA shows that the significant value is 0.688 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q21 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q21 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q21 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q21 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q21
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.583	.873	.511	-3.06	1.89
	non-partnering	-.036	.767	.963	-2.21	2.14
informal partnering	formal partnering	.583	.873	.511	-1.89	3.06
	non-partnering	.548	.660	.416	-1.32	2.42
non-partnering	formal partnering	.036	.767	.963	-2.14	2.21
	informal partnering	-.548	.660	.416	-2.42	1.32

Table 76: LSD on mean score for Q21

According to the table 76, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.511 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q21a) cannot be rejected. The detail of the hypothesis LSD H (Q21a) was stated in 3.5.6. There is no difference in score of the Q21 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.963 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q21b) cannot be rejected. The detail of the hypothesis LSD H (Q21b) was stated in 3.5.6. There is no difference in score of the Q21 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.416 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q21c) cannot be rejected. The detail of the hypothesis LSD H (Q21c) was stated in 3.5.6. There is no difference in score of the Q21 between the informal partnering category and the non-partnering category.

The question 22 (Q22) is that 'Company is extremely glad Company chose the 'X relationship' to work for over others Company was considering at the time Company joined.'

Levene Statistic	Significant
0.452	0.642

Table 77: Test of Homogeneity of Variances for mean score for Q22

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.642 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q22

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.685	2	.342	.905	.420
Within Groups	7.940	21	.378		
Total	8.625	23			

Table 78: One-Way ANOVA on means score for Q22

There is no significant different in the mean score for the Q22. It is because the One-Way ANOVA shows that the significant value is 0.420 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q22 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q22 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q22 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q22 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q22
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.417	.397	.306	-.71	1.54
	non-partnering	.036	.349	.919	-.95	1.02
informal partnering	formal partnering	-.417	.397	.306	-1.54	.71
	non-partnering	-.381	.300	.218	-1.23	.47
non-partnering	formal partnering	-.036	.349	.919	-1.02	.95
	informal partnering	.381	.300	.218	-.47	1.23

Table 79: LSD on mean score for Q22

According to the table 79, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.306 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q22a) cannot be rejected. The detail of the hypothesis LSD H (Q22a) was stated in 3.5.6. There is no difference in score of the Q22 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.919 which exceeds 0.01 (99% confidence interval). The null

hypothesis of LSD H (Q22b) cannot be rejected. The detail of the hypothesis LSD H (Q22b) was stated in 3.5.6. There is no difference in score of the Q22 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.218 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q22c) cannot be rejected. The detail of the hypothesis LSD H (Q22c) was stated in 3.5.6. There is no difference in score of the Q22 between the informal partnering category and the non-partnering category.

The question 23 (Q23) is that 'There's not much to be gained by sticking with the 'X relationship' indefinitely.'

Levene Statistic	Significant
1.085	0.356

Table 80: Test of Homogeneity of Variances for mean score for Q23

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.356 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q23

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.696	2	.848	.421	.662
Within Groups	42.262	21	2.012		
Total	43.958	23			

Table 81: One-Way ANOVA on means score for Q23

There is no significant different in the mean score for the Q23. It is because the One-Way ANOVA shows that the significant value is 0.662 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q23 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q23 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q23 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q23 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q23
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.833	.916	.373	-3.43	1.76
	non-partnering	-.429	.804	.600	-2.71	1.85
informal partnering	formal partnering	.833	.916	.373	-1.76	3.43
	non-partnering	.405	.692	.565	-1.56	2.36
non-partnering	formal partnering	.429	.804	.600	-1.85	2.71
	informal partnering	-.405	.692	.565	-2.36	1.56

Table 82: LSD on mean score for Q23

According to the table 82, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.373 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q23a) cannot be rejected. The detail of the hypothesis LSD H (Q23a) was stated in 3.5.6. There is no difference in score of the Q23 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.600 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q23b) cannot be rejected. The detail of the hypothesis LSD H (Q23b) was stated in 3.5.6. There is no difference in score of the Q23 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.565 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q23c) cannot be rejected. The detail of the hypothesis LSD H

(Q23c) was stated in 3.5.6. There is no difference in score of the Q23 between the informal partnering category and the non-partnering category.

The question 24 (Q24) is that 'Often, Company finds it difficult to agree with the 'X relationship''s policies on important matters related to its 'Y'.'

Levene Statistic	Significant
1.833	0.185

Table 83: Test of Homogeneity of Variances for mean score for Q24

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.185 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q24

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.030	2	2.515	2.523	.104
Within Groups	20.929	21	.997		
Total	25.958	23			

Table 84: One-Way ANOVA on means score for Q24

There is no significant different in the mean score for the Q24. It is because the One-Way ANOVA shows that the significant value is 0.104 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q24 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q24 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q24 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q24 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q24

LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.000	.644	1.000	-1.82	1.82
	non-partnering	-.929	.566	.116	-2.53	.67
informal partnering	formal partnering	.000	.644	1.000	-1.82	1.82
	non-partnering	-.929	.487	.070	-2.31	.45
non-partnering	formal partnering	.929	.566	.116	-.67	2.53
	informal partnering	.929	.487	.070	-.45	2.31

Table 85: LSD on mean score for Q24

According to the table 85, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 1.000 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q24a) cannot be rejected. The detail of the hypothesis LSD H (Q24a) was stated in 3.5.6. There is no difference in score of the Q24 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.116 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q24b) cannot be rejected. The detail of the hypothesis LSD H (Q24b) was stated in 3.5.6. There is no difference in score of the Q24 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.070 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q24c) cannot be rejected. The detail of the hypothesis LSD H (Q24c) was stated in 3.5.6. There is no difference in score of the Q24 between the informal partnering category and the non-partnering category.

The question 25 (Q25) is that ‘Company really cares about the fate of the ‘X relationship’’.

Levene Statistic	Significant
0.553	0.583

Table 86: Test of Homogeneity of Variances for mean score for Q25

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.583 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q25

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.560	2	.780	.888	.426
Within Groups	18.440	21	.878		
Total	20.000	23			

Table 87: One-Way ANOVA on means score for Q25

There is no significant different in the mean score for the Q25. It is because the One-Way ANOVA shows that the significant value is 0.426 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q25 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q25 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q25 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q25 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q25
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-.083	.605	.892	-1.80	1.63
	non-partnering	.464	.531	.392	-1.04	1.97
informal partnering	formal partnering	.083	.605	.892	-1.63	1.80
	non-partnering	.548	.457	.244	-.75	1.84
non-partnering	formal partnering	-.464	.531	.392	-1.97	1.04
	informal partnering	-.548	.457	.244	-1.84	.75

Table 88: LSD on mean score for Q25

According to the table 88, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.892 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q25a) cannot be rejected. The detail of the hypothesis LSD H (Q25a) was stated in 3.5.6. There is no difference in score of the Q25 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.392 which exceeds 0.01 (99% confidence interval). The null

hypothesis of LSD H (Q25b) cannot be rejected. The detail of the hypothesis LSD H (Q25b) was stated in 3.5.6. There is no difference in score of the Q25 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.244 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q25c) cannot be rejected. The detail of the hypothesis LSD H (Q25c) was stated in 3.5.6. There is no difference in score of the Q25 between the informal partnering category and the non-partnering category.

The question 26 (Q26) is that 'For Company, this is the best of all relationships for which to work with'.

Levene Statistic	Significant
5.958	0.009

Table 89: Test of Homogeneity of Variances for mean score for Q26

The Test of Homogeneity of Variances confirmed that it reject the H_0 (null hypothesis) which the category's variances are equal. It is not safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.009 which does not exceed 0.05(at the 95% confidence interval). The One-Way ANOVA cannot be used alone. It is because when the variances dependent variable are not equal across groups, the results of the ANOVA Table may not be valid. The Welch and Brown-Forsythe statistics are computed as alternatives to the usual F test in supplement to the ANOVA.

ANOVA

Q26

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.119	2	3.560	3.609	.045
Within Groups	20.714	21	.986		
Total	27.833	23			

Table 90: One-Way ANOVA on means score for Q26

Robust Tests of Equality of Means

Q26

	Statistic[a]	df1	df2	Sig.
Welch	2.184	2	7.794	.177
Brown-Forsythe	3.062	2	7.968	.103

a. Asymptotically F distributed.

Table 91: Welch Test and Brown-Forsythe Test on mean score for Q26

There is no significant difference in the mean score for the Q20. Although the One-Way ANOVA shows that the significant value is 0.045 which exceeds 0.05 (at the 95% confidence interval), the Welch Test and Brown-Forsythe Test do not confirm that there is significant difference.

H_0 (null hypothesis): There is no difference in mean score of the Q26 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q26 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q26 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

As there the variance of three category is not equal. Therefore the least significant difference (LSD) between any two means cannot be used in order to indicate which

categories differ from one another. Tamhane Test is used. It is because there is no requirement on the equal variance of the Tamhane Test.

Multiple Comparisons

Dependent Variable: Q26
Tamhane

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	-1.500	.695	.193	-3.68	.68
	non-partnering	-.357	.355	.726	-1.49	.78
informal partnering	formal partnering	1.500	.695	.193	-.68	3.68
	non-partnering	1.143	.665	.355	-1.02	3.31
non-partnering	formal partnering	.357	.355	.726	-.78	1.49
	informal partnering	-1.143	.665	.355	-3.31	1.02

Table 92: Tamhane Test on mean score for Q26

According to the table 92, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.193 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q26a) cannot be rejected. The detail of the hypothesis LSD H (Q26a) was stated in 3.5.6. There is no difference in score of the Q26 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.726 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q26b) cannot be rejected. The detail of the hypothesis LSD H (Q26b) was stated in 3.5.6. There is no difference in score of the Q26 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.355 which exceeds 0.01 (99% confidence interval. The null hypothesis of LSD H (Q26c) cannot be rejected. The detail of the hypothesis LSD H (Q26c) was stated in 3.5.6. There is no difference in score of the Q26 between the informal partnering category and the non-partnering category.

The question 27 (Q27) is that 'Deciding to work with the 'X relationship' was a definite mistake on Company's part.'

Levene Statistic	Significant
0.812	0.457

Table 93: Test of Homogeneity of Variances for mean score for Q27

The Test of Homogeneity of Variances confirmed that it does not reject the H_0 (null hypothesis) which the category's variances are equal. It is safe to assume that the variance of three categories is homogeneous. It is because the significant valve is 0.457 which exceeds 0.05(at the 95% confidence interval). The One-Way ANOVA can be used to in this research without data transformation.

ANOVA

Q27

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.869	2	.935	1.970	.164
Within Groups	9.964	21	.474		
Total	11.833	23			

Table 94: One-Way ANOVA on means score for Q27

There is no significant different in the mean score for the Q27. It is because the One-Way ANOVA shows that the significant value is 0.164 which exceeds 0.05 (at the 95% confidence interval).

H_0 (null hypothesis): There is no difference in mean score of the Q27 between the formal partnering category, the informal partnering category and the non-partnering category.

H_1(alternative hypothesis): There is difference in mean score of the Q27 between the formal partnering category, the informal partnering category and the non-partnering category.

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the Q27 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the Q27 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval.

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. But it does not indicate which categories differ from one another.

Therefore the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another.

Multiple Comparisons

Dependent Variable: Q27
LSD

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
formal partnering	informal partnering	.250	.445	.580	-1.01	1.51
	non-partnering	-.393	.391	.326	-1.50	.71
informal partnering	formal partnering	-.250	.445	.580	-1.51	1.01
	non-partnering	-.643	.336	.070	-1.59	.31
non-partnering	formal partnering	.393	.391	.326	-.71	1.50
	informal partnering	.643	.336	.070	-.31	1.59

Table 95: LSD on mean score for Q27

According to the table 95, there is no significant different at 99% confidence interval. The reason of using 99% confidence interval instead of 95% confidence was covered in section 3.5.6.

The significant value of difference between the formal partnering category and the informal partnering category is 0.580 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q27a) cannot be rejected. The detail of the hypothesis LSD H (Q27a) was stated in 3.5.6. There is no difference in score of the Q27 between the formal partnering category and the informal partnering category at 99% confidence interval.

The significant value of difference between the formal partnering category and the non-partnering category is 0.326 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q27b) cannot be rejected. The detail of the hypothesis LSD H (Q27b) was stated in 3.5.6. There is no difference in score of the Q27 between the formal partnering category and the non-partnering category at 99% confidence interval.

The significant value of difference between the informal partnering category and the non-partnering category is 0.070 which exceeds 0.01 (99% confidence interval). The null hypothesis of LSD H (Q27c) cannot be rejected. The detail of the hypothesis LSD H (Q27c) was stated in 3.5.6. There is no difference in score of the Q27 between the informal partnering category and the non-partnering category.

4.4 Part Three Data Analysis

4.4.1 Ranking of trust related questions (Q1 to Q12)

The results of Kendall's coefficient of concordance and the rankings of trust related questions are presented in Table 96.

Questions	All respondents		Formal Partnering		Informal Partnering		Non-partnering	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
11. Company watch to see whether 'Y' meets its deadlines.	5.39	1	5.5	4	5.17	2	5.5	1
9. Company monitors the compliance of 'Y' in fulfilling joint agreements.	5.28	2	6.25	1	4.67	3	4.93	2
2. Company monitor changes in situations so that 'Y' will not take advantages of such changes.	5.23	3	5.25	6	5.5	1	4.93	2
5r. Company check 'Y''s actions to avoid being taken advantage of.	5.01	4	5.5	4	4.67	3	4.86	5
7r. Company monitor 'Y' closely so that they cannot take advantage of Company.	4.93	5	5.75	3	4.25	6	4.79	7
6. Company work openly with 'Y' because it will not take advantage of Company.	4.9	6	6	2	3.83	8	4.86	5
1. Company share information openly with 'Y' because it do not take advantage of Company.	4.81	7	5	7	4.5	5	4.93	2
3r. In, negotiations, Company question 'Y''s statements regarding their capabilities.	4.41	8	5	7	3.67	11	4.57	8
4. Company knows how 'Y' is going to act. It can always be counted on to acts as Company expect.	4.2	9	4.25	10	4	7	4.36	9
8r. Company cannot always be sure what 'Y' will surprise Company next as its action tends to be quiet variable.	4.19	10	4.75	9	3.83	8	4	10
12r. Company cannot always be certain how 'Y' is going to act from one day to another as 'Y' is not very predictable.	3.83	11	4	11	3.83	8	3.64	12
10r. Company watch for misleading information from 'Y' in negotiations.	3.54	12	3.25	12	3.5	12	3.86	11
Number		24		4		6		14
Kendall's Coefficient of Concordance (W)		0.164		0.335		0.204		0.195
Asymp. Sig.		0.000		0.195		0.266		0.002

Table 96: Rankings on the trust related question (Q1 to Q12)

Kendall's coefficient of concordance (W) for the rankings of trust related questions (Q1 to Q12) among the three categories' respondents is 0.335, 0.204 and 0.195 for formal partnering' category, informal partnering' category and non-partnering' category respectively. The computed Kendall's coefficient of concordance (W) of formal partnering' category and informal partnering category are significant at 0.195 and 0.266

respectively. Both of them are not significant at the 0.05 which is 95% confidence interval. The null hypothesis does not be rejected.

H_0 (null hypothesis): The respondents' ratings within a certain category are not related to each other.

H_1 (alternative hypothesis): The respondents' ratings within a certain category are related to each other.

The result is that the respondent ratings within a certain category are not related to each other. However the computed Kendall's coefficient of concordance (W) of non-partnering' category are significant at 0.002. The null hypothesis can be rejected as 95% confidence interval. It can conclude that there is significant amount of agreement among the respondents in the non-partnering' category on the rankings of the questions.

4.4.2 Rankings of commitment related questions (Q13 to Q27)

The results of Kendall's coefficient of concordance and the rankings of commitment related questions are presented in Table 97.

Questions	All respondents		Formal Partnering		Informal Partnering		Non-partnering	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
13. Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.	5.38	1	5.25	1	5.67	1	5.21	1
25. Company really cares about the fate of the 'X relationship'.	5.12	2	5.25	1	5.33	2	4.79	3
17. Company finds that its values and the 'X relationship''s values are very similar.	4.99	3	5	4	5.33	2	4.64	6
18. Company is proud to tell other companies that Company is part of the 'X relationship'.	4.73	4	5.25	1	4.5	6	4.43	7
19r. Company could just as well be working for a different relationship as long as the type of work were similar.	4.71	5	4.5	6	4.83	5	4.79	3
14. Company talks up the 'X relationship' to other companies as a great relationship to work for.	4.62	6	4.75	5	4.33	7	4.79	3
20. The 'X relationship' really inspires the best in Company in the way of job performance.	4.56	7	4.5	6	4.33	7	4.86	2
26. For Company, this is the best of all relationships for which to work with.	4.12	8	3.5	10	5	4	3.86	10
22. Company is extremely glad Company chose the 'X relationship' to work for over others Company was considering at the time Company joined.	4.1	9	4.25	8	3.83	10	4.21	8
21r. It would take very little change in present circumstances to cause Company to leave the 'X relationship'.	3.77	10	3.75	9	4.33	7	3.79	11
23r. There's not much to be gained by sticking with the 'X relationship' indefinitely.	3.42	11	3	11	3.83	10	3.43	12
24r. Often, Company finds it difficult to agree with the 'X relationship''s policies on important matters related to its 'Y'.	3.31	12	3	11	3	13	3.93	9
16. Company would accept almost any type of job assignment in order to keep working for the 'X relationship'.	3.11	13	3	11	3.33	12	3	14
15r. Company feels very little loyalty to the 'X relationship'.	2.99	14	2.75	14	3	13	3.21	13
27r. Deciding to work with the 'X relationship' was a definite mistake on Company's part.	1.8	15	1.75	15	1.5	15	2.14	15
Number		24		4		6		14
Kendall's Coefficient of Concordance (W)		0.436		0.527		0.511		0.434
Asymp. Sig.		0.000		0.009		0.000		0.000

Table 97: Rankings on commitment related questions (Q13 to Q27)

Kendall's coefficient of concordance (W) for the rankings of commitment related questions (Q13 to Q27) among the three categories' respondents is 0.527, 0.511 and 0.434 for formal partnering' category, informal partnering' category and non-partnering' category respectively. The computed Kendall's coefficient of concordance (W) of formal partnering' category, informal partnering' category and non-partnering' category are significant at 0.009, 0.000 and 0.000 respectively. The null hypothesis can be rejected as 95% confidence interval for the formal partnering' category and can be rejected at 99% confidence interval for the informal partnering' category and non-partnering' category.

H_0 (null hypothesis): The respondents' ratings within a certain category are not related to each other.

H_1 (alternative hypothesis): The respondents' ratings within a certain category are related to each other.

It can conclude that there is significant amount of agreement among the respondents in each category on the rankings of the questions.

4.5 Follow up questions through email (if necessary)

It is because there is no contradiction between the result of received data and the research hypothesis which there is a significant difference in mean score of trust level and commitment level between the three categories, the follow-up questions may not be arranged in order to provide more detailed information which help to figure out the problems. According to the research plan in section 3.5.7, no follow up questions is required, the authors intent to collect more opinions from the respondents. The follow up questions were sent. There was only one reply. Since there is only one reply, it cannot give any indications. The reply is not presented and is attached in the Appendix for reference.

5. Discussion

This chapter discusses the data which presented in the chapter 4. the sequence of discussion follows the sequence of data analysis in form of Part One, Part Two and Part Three. The indication of the received data will be concluded. And the suggested reason for the concluded indication will be discussed.

5.1 Part One Data Discussion

5.1.1 Total mean score of trust level and commitment level

The hypothesis that there is no difference in the total mean score of the trust level and commitment level between the formal partnering' category, informal partnering' category and non-partnering' category cannot be rejected. According to the section 4.2.1, the One-Way ANOVA shows that the significant value is 0.763 which exceeds 0.05 (at the 95% confidence interval). There is no statistical significant difference for the total mean score for trust level and commitment at the 95% confidence interval. It is interesting to discover that the cooperative relationship in term of trust level and commitment level of the formal partnering category which adopted the extensive of partnering tools cannot give a higher cooperative relationship in term of trust level and commitment level than that of the informal partnering category and non-partnering category. It suggests that the partnering projects cannot guarantee a higher level of cooperative relationship in term of trust level and commitment. The details will be discussed in section 5.5.1, 5.5.2 and 5.5.3.

Type of Partnering	Total Mean Score for trust level and commitment level	F-value	Significant value
Formal Partnering	122	0.274	0.763
Informal Partnering	121		
Non Partnering	118		

Table 98: One Way ANOVA Test on total mean score of trust level and commitment level

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. There may be a significant difference between the three categories which is averaged out when comparing the three categories as a whole. Therefore, the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another. The significant level will be taken at 0.01 which is 99% confidence interval. It is safely to make three comparisons and still have only over 95% confidence interval. If the significant level of 0.05 was taken, it means that every comparison has the risk of 5% error. Three comparisons are needed in order to test the three categories. There is risk of 15% error in total. The details was covered in section 3.5.6.

(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Sig.
Formal partnering	Informal partnering	1.33333	6.39350	.837
Formal partnering	Non-partnering	3.71429	5.61547	.516
Informal partnering	Non-partnering	2.38095	4.83303	.627

Table 99: LSD Test on total mean score of trust level and commitment level

The significant value of difference between the formal partnering category and the informal partnering category, the formal partnering category and the non-partnering category, the informal partnering category and the non-partnering category are 0.837, 0.516 and 0.627 respectively. All of them exceed 0.01(at the 99% confidence interval).

There are no difference in all the three comparisons. It further confirmed that there is no difference in cooperative relationship in term of trust level and commitment level between the formal partnering category, the informal partnering category and the non-partnering category. The details of rationale behind the no difference in the level of cooperative relationship in term of trust level and commitment level between the three categories will be discussed in section 5.5.1, 5.5.2 and 5.5.3.

5.1.2 Mean score for trust level

The mean score for trust level is separated from the total mean score of the trust level and commitment level and is analysed individually. The hypothesis that there is no difference in the mean score of the trust level between the formal partnering' category, informal partnering' category and non-partnering' category cannot be rejected. The result is that, according to the chapter 4.2.2, the One-Way ANOVA shows that the significant value is 0.987 which exceeds 0.05(at the 95% confidence interval). There is no statistical significant difference for the mean score for trust level at the 95% confidence interval. It is interesting to discover that the trust level of the formal partnering category which adopted the extensive of partnering tools cannot give a higher trust level than that of the informal partnering category and non-partnering category. It suggests that the partnering projects cannot guarantee a higher trust level. The details of rationale behind will be discussed in section 5.5.1, 5.5.2 and 5.5.3.

Type of Partnering	Mean Score for trust level	F-value	Significant value
Formal Partnering	52	0.013	0.987
Informal Partnering	51.5		
Non Partnering	51.79		

Table 100: One Way ANOVA Test on mean score of trust level

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. There may be a significant difference between the three categories which is averaged out when comparing the three categories as a whole. Therefore, the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another. The significant level will be taken at 0.01 which is 99% confidence interval. It is safely to make three comparisons and still have only over 95% confidence interval. If the significant level of 0.05 was taken, it means that every comparison has the risk of 5% error. Three comparisons are needed in order to test the three categories. There is risk of 15% error in total. The detail was covered in section 3.5.6.

(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Sig.
Formal partnering	Informal partnering	.50000	3.24850	.879
Formal partnering	Non-partnering	.21429	2.85319	.946
Informal partnering	Non-partnering	-.28571	2.45563	.908

Table 101: LSD Test on total mean score of trust level

The significant value of difference between the formal partnering category and the informal partnering category, the formal partnering category and the non-partnering category, the informal partnering category and the non-partnering category are 0.879, 0.946 and 0.908 respectively. All of them exceed 0.01(at the 99% confidence interval). There are no difference in all the three comparisons. It further confirmed that there is no difference in trust level between the formal partnering category, the informal partnering category and the non-partnering category. The details of rationale behind the no difference in the trust level between the three categories will be discussed in section 5.5.1, 5.5.2 and 5.5.3.

5.1.3 Mean score for commitment level

The mean score for commitment level is separated from the total mean score of the trust level and commitment level and is analysed individually. The hypothesis that there is no

difference in the mean score of the commitment level between the formal partnering' category, informal partnering' category and non-partnering' category cannot be rejected. The result is that, according to the chapter 4.2.3 the One-Way ANOVA shows that the significant value is 0.476 which exceeds 0.05(at the 95% confidence interval). There is no statistical significant difference for the mean score for commitment level at the 95% confidence interval. It is interesting to discover that the trust level of the formal partnering category which adopted the extensive of partnering tools cannot give a higher commitment level than that of the informal partnering category and non-partnering category. It suggests that the partnering projects cannot guarantee a higher commitment level. The details of rationale behind will be discussed in section 5.5.1, 5.5.2 and 5.5.3.

Type of Partnering	Mean Score for commitment level	F-value	Significant value
Formal Partnering	70	0.770	0.476
Informal Partnering	69.17		
Non Partnering	66.5		

Table 102: One Way ANOVA Test on mean score of commitment level

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. There may be a significant difference between the three categories which is averaged out when comparing the three categories as a whole. Therefore, the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another. The significant level will be taken at 0.01 which is 99% confidence interval. It is safely to make three comparisons and still have only over 95% confidence interval. If the significant level of 0.05 was taken, it means that every comparison has the risk of 5% error. Three comparisons are needed in order to test the three categories. There is risk of 15% error in total. The details was covered in section 3.5.6.

(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Sig.
Formal partnering	Informal partnering	.83333	3.82746	.830
Formal partnering	Non-partnering	3.50000	3.36170	.310
Informal partnering	Non-partnering	2.66667	2.89329	0.367

Table 103: LSD Test on total mean score of commitment level

The significant value of difference between the formal partnering category and the informal partnering category, the formal partnering category and the non-partnering category, the informal partnering category and the non-partnering category are 0.830, 0.310 and 0.367 respectively. All of them exceed 0.01(at the 99% confidence interval). There are no differences in all the three comparisons. It further confirmed that there is no difference in trust level between the formal partnering category, the informal partnering category and the non-partnering category. The details of rationale behind the no difference in the trust level between the three categories will be discussed in section 5.5.1, 5.5.2 and 5.5.3.

The result of, the Part One, One-Way ANOVA on total mean score comparison of formal partnering projects, informal partnering projects and non-partnering projects confirmed that the trust level and commitment level are in no difference between the three categories. It is further confirmed by the LSD which is used to test the differences of the three category from one another. From the Part One result, it can concluded that there is no statistical significant at the 95% confidence interval indicating that the trust level and commitment level are different in the formal partnering projects, informal partnering project and non-partnering projects. It suggests that the partnering projects cannot guarantee a higher level of cooperative relationship in term of trust level and commitment level. The details of rationale behind will be discussed in section 5.5.

The Part Two, which will be discussed, is to further investigate whether there is difference in the score of the individual questions between the three categories which are the formal partnering category, the informal partnering category and the non-partnering category. It is because the basis of the hypothesis testing of the part one is the total score.

The differences between scores of individual questions are subjected to be averaged out when they are summarized up into the total score. And as mentioned before, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. The least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another. The details of the rationale behind the Part Two was discussed in the section 3.5.1.

5.2 Part Two Data Discussion

5.2.1 Data Analysis on the trust related questions (Q1 to Q12)

There is no significant different in the mean score of the Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q10 and Q11. It is because the One-Way ANOVA shows that all the significant value of the Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q10 and Q11 exceed 0.05 (at the 95% confidence interval).

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the individual question which is from the Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q10 and Q11 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the individual question which is from the Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q10 and Q11 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. The details of data analysis were covered in the section 4.3.1.

However There is no significant different in the mean score of the Q9 which has a significant value of 0.040. It exceeds 0.05 (at 95% confidence interval). There is difference for the mean score for the Q9 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence.

For Q12, the Welch Test and Brown-Forsythe Test are used for the unequal variance. The detail was covered in the section 4.3.1. There is no significant different in the mean score of the Q12.

Questions (Q1 to Q12)	F-value	Significant value
1. Company share information openly with 'Y' because it do not take advantage of Company.	0.578	0.570
2. Company monitor changes in situations so that 'Y' will not take advantages of such changes.	0.884	0.428
3r. In, negotiations, Company question 'Y''s statements regarding their capabilities.	1.190	0.324
4. Company knows how 'Y' is going to act. It can always be counted on to acts as Company expect.	0.201	0.819
5r. Company check 'Y''s actions to avoid being taken advantage of.	0.257	0.776
6. Company work openly with 'Y' because it will not take advantage of Company.	2.690	0.091
7r. Company monitor 'Y' closely so that they cannot take advantage of Company.	1.347	0.281
8r. Company cannot always be sure what 'Y' will surprise Company next as its action tends to be quiet variable.	0.597	0.560
9. Company monitors the compliance of 'Y' in fulfilling joint agreements.	3.767	0.040
10r. Company watch for misleading information from 'Y' in negotiations.	0.400	0.676
11. Company watch to see whether 'Y' meets its deadlines.	0.342	0.714
12r. Company cannot always be certain how 'Y' is going to act from one day to another as 'Y' is not very predictable.	Tested by Welch Test and Brown-Forsythe Test	

Table 104: Summary of One-Way ANOVA Test's significant value of trust related questions (from Q1 to Q12)

Question	Test	Asymptotically F distributed.	Significant value
12r. Company cannot always be certain how 'Y' is going to act from one day to another as 'Y' is not very predictable.	Welch	0.079	0.925
	Brown-Forsythe	0.070	0.933

Table 105: Summary of Welch Test and Brown-Forsythe Test's for Q12

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. There may be a significant difference between the three categories which is averaged out when comparing the three categories as a whole. Therefore, the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another. The significant level will be taken at 0.01 which is 99% confidence interval. The detail of rationale behind was covered in section 3.5.6.

Questions (from Q1 to Q12)	(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Significant value
Q1	Formal partnering	Informal partnering	0.500	0.571	0.391
	Formal partnering	Non-partnering	0.071	0.501	0.888
	Informal partnering	Non-partnering	-0.429	0.432	0.332
Q2	Formal partnering	Informal partnering	-0.250	0.584	0.673
	Formal partnering	Non-partnering	0.321	0.513	0.538
	Informal partnering	Non-partnering	0.571	0.441	0.209
Q3	Formal partnering	Informal partnering	1.333	0.942	0.172
	Formal partnering	Non-partnering	0.429	0.828	0.610
	Informal partnering	Non-partnering	-0.905	0.712	0.218
Q4	Formal partnering	Informal partnering	0.250	0.745	0.740
	Formal partnering	Non-partnering	-0.107	0.654	0.871
	Informal partnering	Non-partnering	-0.357	0.563	0.533
Q5	Formal partnering	Informal partnering	0.583	0.819	0.484
	Formal partnering	Non-partnering	0.393	0.719	0.591
	Informal partnering	Non-partnering	-0.190	0.619	0.761
Q6	Formal partnering	Informal partnering	2.167	0.940	0.031
	Formal partnering	Non-partnering	1.143	0.826	0.181
	Informal partnering	Non-partnering	-1.024	0.711	0.164
Q7	Formal partnering	Informal partnering	1.083	0.724	0.150
	Formal partnering	Non-partnering	0.964	0.636	0.144
	Informal partnering	Non-partnering	-0.119	0.548	0.830
Q8	Formal partnering	Informal partnering	0.917	0.886	0.313
	Formal partnering	Non-partnering	0.750	0.778	0.346
	Informal partnering	Non-partnering	-0.167	0.670	0.806
Q9	Formal partnering	Informal partnering	1.583	0.614	0.018
	Formal partnering	Non-partnering	1.321	0.539	0.023
	Informal partnering	Non-partnering	-0.262	0.464	0.579
Q10	Formal partnering	Informal partnering	-0.250	0.845	0.770
	Formal partnering	Non-partnering	-0.607	0.742	0.422
	Informal partnering	Non-partnering	-0.357	0.639	0.582
Q11	Formal partnering	Informal partnering	0.333	0.552	0.552
	Formal partnering	Non-partnering	0.000	0.484	1.000
	Informal partnering	Non-partnering	-0.333	0.417	0.433
Q12 (Tamhane Test)	Formal partnering	Informal partnering	0.167	0.956	0.863
	Formal partnering	Non-partnering	0.357	0.840	0.675
	Informal partnering	Non-partnering	0.190	0.723	0.795

Table 106: Summary of LSD Test on the mean score of individual questions (from Q1 to Q12)

According to Table 106, the significant value of difference between the formal partnering category and the informal partnering category, difference between the formal partnering

category and the non-partnering category, difference between the informal partnering category and the non-partnering category of all individual questions (from Q1 to Q12) exceed 0.01(at the 99% confidence interval). There are no difference in mean score of the individual questions (from Q1 to Q12) between the formal partnering category and the informal partnering category, the formal partnering category and the non-partnering category, the informal partnering category and the non-partnering category at 99% confidence interval. It may suggest that the formal partnering cannot change the behaviors of the respondents. It is because the rating of the individual questions of the formal partnering category does not differ from that of the informal partnering category and non-partnering category. According to the result, the suggestion of partnering approach can change or improve the existing behaviors is weak. The detail on the rationale behind will be discussed in the section 5.2.1 – 5.2.5.

However if the 0.05 which is at 95% confidence interval is take, the significant value of difference between the formal partnering category and the informal partnering category of Q6 is 0.031 which does not exceed the 0.05. There is a difference between the formal partnering category and the informal partnering category of Q6 at 95% confidence interval. Although there is a large possibility of inherent error which was discussed in the section 3.5.6, it is still worth to figure out this difference.

The mean score of Q6 of formal partnering category is higher than that of the informal partnering category by 2.167. The is 'Company work openly with 'Y' because it will not take advantage of Company.' There is 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of informal partnering category. However it is interesting to find out that there is no 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of non-partnering category.

The author believes that there is no strong indication to state that the formal partnering category respondents would work more openly with its business 'partners'. It is because

there is no 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of non-partnering category.

Besides Q6, the significant value of difference between the formal partnering category and the informal partnering category, difference between the formal partnering category and the non-partnering category of Q9 are 0.018 and 0.023 respectively. Both of them do not exceed the 0.05. There is a difference between the formal partnering category and the informal partnering category of Q9 at 95% confidence interval. And there is a difference between the formal partnering category and the non-partnering category of Q9 at 95% confidence interval. It confirms with the One-Way ANOVA Test on Q9 which was discussed before.

The mean score of Q9 of formal partnering category is higher than that of the informal partnering category by 1.583. And the mean score of Q9 of formal partnering category is higher than that of the non-partnering category by 1.321. The Q9 is 'Company monitors the compliance of 'Y' in fulfilling joint agreements.' There is 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of informal partnering category. And there is 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of non-partnering category.

Despite there is a large possibility of inherent error which was discussed in the section 3.5.6, the author believes that it may indicate that the formal partnering category respondents would pay more afford in monitoring the compliance of its partners in fulfilling joint agreements. It is because there is 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of informal partnering category. And there is 95% confidence to state that formal partnering category respondents rated a higher score for this statement than that of non-partnering category. It is unlike the case which mentioned before. The Part Three Data Analysis on ranking provide some support for the author point of view. According to Chan & Kumaraswamy (1996b) stated that 'the fact that the subjective assessment does not

provide any absolute value on the ranking position is recognized. Emphasis is then given only to factors that are placed as the most important and the least important in the ranking list.' The ranking of Q9 in the non-partnering category is at the top two ranking. The ranking also give importance information in consideration of the implication of this difference. The details will be covered in the section 5.3.1. It suggests that there is an agreement among the respondents that the Q9 is one of important factor in trust. Therefore the author believes that it is worth to figure out this difference in despite of a large possibility of inherent error which was discussed in the section 3.5.6.

5.2.2 Data Analysis on the commitment related questions (Q12 to Q27)

There is no significant different in the mean score of the Q13, Q14, Q15, Q16, Q17, Q18, Q21, Q22, Q23, Q24, Q25 and Q27. It is because the One-Way ANOVA shows that all the significant value of the Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q21, Q22, Q23, Q24, Q25 and Q27 exceed 0.05 (at the 95% confidence interval).

It does not reject the H_0 (null hypothesis) which there is no difference in the mean score the individual question which is from the Q13, Q14, Q15, Q16, Q17, Q18, Q21, Q22, Q23, Q24, Q25 and Q27 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. There is no significant difference for the mean score for the individual question which is from the Q13, Q14, Q15, Q16, Q17, Q18, Q21, Q22, Q23, Q24, Q25 and Q27 between the formal partnering category, the informal partnering category and the non-partnering category at the 95% confidence interval. The details of data analysis were covered in the section 4.3.2.

For Q19, Q20 and Q26, the Welch Test and Brown-Forsythe Test are used for the unequal variance. The detail was covered in the section 4.3.1. There is no significant different in the mean score of the Q19, Q20 and Q26. The summary of Welch Test and Brown-Forsythe Test are in Table 108.

Questions (Q12 to Q27)	F-value	Significant value
13. Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.	0.508	0.609
14. Company talks up the 'X relationship' to other companies as a great relationship to work for.	1.111	0.348
15r. Company feels very little loyalty to the 'X relationship'.	0.177	0.839
16. Company would accept almost any type of job assignment in order to keep working for the 'X relationship'.	0.192	0.827
17. Company finds that its values and the 'X relationship''s values are very similar.	1.738	0.200
18. Company is proud to tell other companies that Company is part of the 'X relationship'.	0.696	0.510
19r. Company could just as well be working for a different relationship as long as the type of work were similar.	Tested by Welch Test and Brown-Forsythe Test	
20. The 'X relationship' really inspires the best in Company in the way of job performance.	Tested by Welch Test and Brown-Forsythe Test	
21r. It would take very little change in present circumstances to cause Company to leave the 'X relationship'.	0.380	0.688
22. Company is extremely glad Company chose the 'X relationship' to work for over others Company was considering at the time Company joined.	0.905	0.420
23r. There's not much to be gained by sticking with the 'X relationship' indefinitely.	0.421	0.662
24r. Often, Company finds it difficult to agree with the 'X relationship''s policies on important matters related to its 'Y'.	2.523	0.104
25. Company really cares about the fate of the 'X relationship'.	0.888	0.426
26. For Company, this is the best of all relationships for which to work with.	Tested by Welch Test and Brown-Forsythe Test	
27r. Deciding to work with the 'X relationship' was a definite mistake on Company's part.	1.970	0.164

Table 107: Summary of One-Way ANOVA Test's significant value of commitment related questions (from Q12 to Q27)

Question	Test	Asymptotically F distributed.	Significant value
19r. Company could just as well be working for a different relationship as long as the type of work were similar.	Welch	0.075	0.929
	Brown-Forsythe	0.109	0.899
20. The 'X relationship' really inspires the best in Company in the way of job performance.	Welch	1.038	0.412
	Brown-Forsythe	0.897	0.447
26. For Company, this is the best of all relationships for which to work with.	Welch	2.184	0.177
	Brown-Forsythe	3.062	0.103

Table 108: Summary of Welch Test and Brown-Forsythe Test's for Q19, Q20 and Q26

As mentioned in the section 3.5.6, the One-Way ANOVA only can test whether there are differences between categories in the hypothesis testing as a whole. There may be a significant difference between the three categories which is averaged out when comparing the three categories as a whole. Therefore, the least significant difference (LSD) between any two means is calculated in order to indicate which categories differ from one another. The significant level will be taken at 0.01 which is 99% confidence interval. The detail of rationale behind was covered in section 3.5.6.

Questions (from Q1 to Q12)	(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Significant value
Q13	Formal partnering	Informal partnering	-0.417	0.605	0.498
	Formal partnering	Non-partnering	0.036	0.531	0.947
	Informal partnering	Non-partnering	0.452	0.457	0.334
Q14	Formal partnering	Informal partnering	0.417	0.409	0.320
	Formal partnering	Non-partnering	-0.036	0.359	0.922
	Informal partnering	Non-partnering	-0.452	0.309	0.158
Q15	Formal partnering	Informal partnering	-0.250	0.925	0.790
	Formal partnering	Non-partnering	-0.464	0.812	0.574
	Informal partnering	Non-partnering	-0.214	0.699	0.762
Q16	Formal partnering	Informal partnering	-0.333	0.736	0.655
	Formal partnering	Non-partnering	0.000	0.647	1.000
	Informal partnering	Non-partnering	0.333	0.557	0.556
Q17	Formal partnering	Informal partnering	-0.333	0.499	0.511
	Formal partnering	Non-partnering	0.357	0.438	0.424
	Informal partnering	Non-partnering	0.690	0.377	0.081
Q18	Formal partnering	Informal partnering	0.417	0.833	0.622
	Formal partnering	Non-partnering	0.821	0.732	0.274
	Informal partnering	Non-partnering	0.405	0.630	0.528
Q19	Tested by Tamhane Test. The detail was covered in the section 4.3.2				
Q20	Tested by Tamhane Test. The detail was covered in the section 4.3.2				
Q21	Formal partnering	Informal partnering	-0.583	0.860	0.895
	Formal partnering	Non-partnering	-0.036	0.841	1.000
	Informal partnering	Non-partnering	0.548	0.568	0.728
Q22	Formal partnering	Informal partnering	0.417	0.397	0.306
	Formal partnering	Non-partnering	0.036	0.349	0.919
	Informal partnering	Non-partnering	-0.381	0.300	0.218
Q23	Formal partnering	Informal partnering	-0.833	0.916	0.373
	Formal partnering	Non-partnering	-0.429	0.804	0.600
	Informal partnering	Non-partnering	0.405	0.692	0.565
Q24	Formal partnering	Informal partnering	0.000	0.644	1.000
	Formal partnering	Non-partnering	-0.929	0.566	0.116
	Informal partnering	Non-partnering	-0.929	0.487	0.070
Q25	Formal partnering	Informal partnering	-0.083	0.605	0.892
	Formal partnering	Non-partnering	0.464	0.531	0.392
	Informal partnering	Non-partnering	0.548	0.457	0.244
Q26	Tested by Tamhane Test. The detail was covered in the section 4.3.2				
Q27	Formal partnering	Informal partnering	0.250	0.445	0.580
	Formal partnering	Non-partnering	-0.393	0.391	0.326
	Informal partnering	Non-partnering	-0.643	0.336	0.070

Table 109: Summary of LSD Test on the mean score of individual questions (from Q13 to Q27 except Q19, Q20 and Q26)

Questions (from Q1 to Q12)	(I) Categories	(J) Categories	Mean Difference (I-J)	Std. Error	Significant value
Q19	Formal partnering	Informal partnering	-0.333	0.567	0.563
	Formal partnering	Non-partnering	-0.286	0.498	0.572
	Informal partnering	Non-partnering	0.048	0.428	0.913
Q20	Formal partnering	Informal partnering	0.167	0.573	0.989
	Formal partnering	Non-partnering	-0.357	0.305	0.673
	Informal partnering	Non-partnering	-0.524	0.504	0.716
Q26	Formal partnering	Informal partnering	-1.500	0.695	0.193
	Formal partnering	Non-partnering	-0.357	0.355	0.726
	Informal partnering	Non-partnering	1.143	0.665	0.355

Table 110: Summary of Tamhane Test on the mean score of Q19, Q20 and Q26

According to Table 109 and Table 110, the significant value of difference between the formal partnering category and the informal partnering category, difference between the formal partnering category and the non-partnering category, difference between the informal partnering category and the non-partnering category of all individual questions (from Q13 to Q27) exceed 0.01(at the 99% confidence interval). There are no difference in mean score of the individual questions (from Q13 to Q27) between the formal partnering category and the informal partnering category, the formal partnering category and the non-partnering category, the informal partnering category and the non-partnering category at 99% confidence interval. It may suggest that the formal partnering cannot change the behaviors of the respondents. It is because the rating of the individual questions of the formal partnering category does not differ from that of the informal partnering category and non-partnering category. According to the result, the suggestion of partnering approach can change or improve the existing behaviors is weak. The detail on the rationale behind will be discussed in the section 5.2.1 – 5.2.5.

5.3 Part Three Data Discussion

5.3.1 Rankings of trust related questions (Q1 to Q12)

It is because the score of the trust level and commitment level is based on the respondents' subjective perception. It is not an objective assessment. Chan & Kumaraswamy (1996b) stated that 'the fact that the subjective assessment does not provide any absolute value on the ranking position is recognized. Emphasis is then given only to factors that are placed as the most important and the least important in the ranking list.'

According to chapter 4, the computed Kendall's coefficient of concordance (W) of formal partnering' category and informal partnering category are not significant at the 0.05 which is 95% confidence interval. The null hypothesis does not be rejected. The respondent ratings within a certain category are not related to each other. However the computed Kendall's coefficient of concordance (W) of non-partnering' category are significant at 0.002. The null hypothesis can be rejected as 95% confidence interval. It can conclude that there is significant amount of agreement among the respondents in the non-partnering' category on the rankings of the questions. The Kendall's coefficient of concordance (W) is an important test in analyzing the rankings of the individual questions. It is because there is inherent error in direct ranking or mean score comparison without carrying out Kendall's (W) test. The ranking of questions was obtained from direct comparison of mean score of the respondents. The mean score was the average of the individual score of individual respondent. The direct comparison of mean score could not reflect the actual ranking when the variance of score which was rated by the individual respondent was large. It was because there was a large overlapping of individual score from two samples.

Questions	All respondents		Formal Partnering		Informal Partnering		Non-partnering	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
11. Company watch to see whether 'Y' meets its deadlines.	5.39	1	5.5	4	5.17	2	5.5	1
9. Company monitors the compliance of 'Y' in fulfilling joint agreements.	5.28	2	6.25	1	4.67	3	4.93	2
2. Company monitor changes in situations so that 'Y' will not take advantages of such changes.	5.23	3	5.25	6	5.5	1	4.93	2
5r. Company check 'Y''s actions to avoid being taken advantage of.	5.01	4	5.5	4	4.67	3	4.86	5
7r. Company monitor 'Y' closely so that they cannot take advantage of Company.	4.93	5	5.75	3	4.25	6	4.79	7
6. Company work openly with 'Y' because it will not take advantage of Company.	4.9	6	6	2	3.83	8	4.86	5
1. Company share information openly with 'Y' because it do not take advantage of Company.	4.81	7	5	7	4.5	5	4.93	2
3r. In, negotiations, Company question 'Y''s statements regarding their capabilities.	4.41	8	5	7	3.67	11	4.57	8
4. Company knows how 'Y' is going to act. It can always be counted on to acts as Company expect.	4.2	9	4.25	10	4	7	4.36	9
8r. Company cannot always be sure what 'Y' will surprise Company next as its action tends to be quiet variable.	4.19	10	4.75	9	3.83	8	4	10
12r. Company cannot always be certain how 'Y' is going to act from one day to another as 'Y' is not very predictable.	3.83	11	4	11	3.83	8	3.64	12
10r. Company watch for misleading information from 'Y' in negotiations.	3.54	12	3.25	12	3.5	12	3.86	11
Number		24		4		6		14
Kendall's Coefficient of Concordance (W)		0.164		0.335		0.204		0.195
Asymp. Sig.		0.000		0.195		0.266		0.002

Table 96: Rankings on the trust related question (Q1 to Q12)

The importance of ranking on the trust related questions (Q1 to Q12) of the questionnaire is to discover relative importance of the Q1 to Q12 which can indicate the agreement of the respondents on the trust concept and commitment concept. The ranking method is used as a form of analysis and presentation. It is an interesting result showing that there is no consent on the ranking of the trust related questions within the formal partnering'

category and within the informal partnering' category. However there is a consent on the ranking of the trust related questions within the non-partnering' category. There are no discussion on the ranking of the formal partnering category and the informal partnering category. It is because there is a high possibility that the ranking is false. The detail was discussed in chapter 3, 4.

Questions	All respondents		Formal Partnering		Informal Partnering		Non-partnering	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
11. Company watch to see whether 'Y' meets its deadlines.	5.39	1	5.5	4	5.17	2	5.5	1
9. Company monitors the compliance of 'Y' in fulfilling joint agreements.	5.28	2	6.25	1	4.67	3	4.93	2
2. Company monitor changes in situations so that 'Y' will not take advantages of such changes.	5.23	3	5.25	6	5.5	1	4.93	2

Table 111: Top three trust related question (Q1 to Q12)

For the non-partnering category, all the respondents ranked the '11. Company watch to see whether 'Y' meets its deadlines.' to be the top four rank. And '9. Company monitors the compliance of 'Y' in fulfilling joint agreements.' was ranked to be the top three rank. The lowest rank is the '10r. Company watch for misleading information from 'Y' in negotiations.' All respondents ranked it as the lowest two ranks. It suggests that the respondents' agreement on the trust is weighted on the calculative basis. The calculative trust can be gained physical or observable proof. The project performance record is an example. It also suggested an explanation on resonate in development of evaluation method in the partnering workshop. The details will be discussed in the section 5.2.3.

5.3.2 Rankings of commitment related questions (Q13 to Q27)

According to chapter 4, the computed Kendall's coefficient of concordance (W) of formal partnering' category, informal partnering' category and non-partnering' category are significant at 0.009, 0.000 and 0.000 respectively. The null hypothesis can be rejected as 95% confidence interval for the formal partnering' category and can be rejected at 99% confidence interval for the informal partnering' category and non-partnering'

category. It can conclude that there is significant amount of agreement among the respondents in each category on the rankings of the questions. The importance of Kendall's (W) was covered before.

Questions	All respondents		Formal Partnering		Informal Partnering		Non-partnering	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
13. Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.	5.38	1	5.25	1	5.67	1	5.21	1
25. Company really cares about the fate of the 'X relationship'.	5.12	2	5.25	1	5.33	2	4.79	3
17. Company finds that its values and the 'X relationship''s values are very similar.	4.99	3	5	4	5.33	2	4.64	6
18. Company is proud to tell other companies that Company is part of the 'X relationship'.	4.73	4	5.25	1	4.5	6	4.43	7
19r. Company could just as well be working for a different relationship as long as the type of work were similar.	4.71	5	4.5	6	4.83	5	4.79	3
14. Company talks up the 'X relationship' to other companies as a great relationship to work for.	4.62	6	4.75	5	4.33	7	4.79	3
20. The 'X relationship' really inspires the best in Company in the way of job performance.	4.56	7	4.5	6	4.33	7	4.86	2
26. For Company, this is the best of all relationships for which to work with.	4.12	8	3.5	10	5	4	3.86	10
22. Company is extremely glad Company chose the 'X relationship' to work for over others Company was considering at the time Company joined.	4.1	9	4.25	8	3.83	10	4.21	8
21r. It would take very little change in present circumstances to cause Company to leave the 'X relationship'.	3.77	10	3.75	9	4.33	7	3.79	11
23r. There's not much to be gained by sticking with the 'X relationship' indefinitely.	3.42	11	3	11	3.83	10	3.43	12
24r. Often, Company finds it difficult to agree with the 'X relationship''s policies on important matters related to its 'Y'.	3.31	12	3	11	3	13	3.93	9
16. Company would accept almost any type of job assignment in order to keep working for the 'X relationship'.	3.11	13	3	11	3.33	12	3	14
15r. Company feels very little loyalty to the 'X relationship'.	2.99	14	2.75	14	3	13	3.21	13
27r. Deciding to work with the 'X relationship' was a definite mistake on Company's part.	1.8	15	1.75	15	1.5	15	2.14	15
Number		24		4		6		14
Kendall's Coefficient of Concordance (W)		0.436		0.527		0.511		0.434
Asymp. Sig.		0.000		0.009		0.000		0.000

Table 97: Rankings on commitment related questions (Q13 to Q27)

The importance of ranking on the trust related questions (Q1 to Q12) of the questionnaire is to discover relative importance of the Q1 to Q12 which can indicate the agreement of the respondents on the trust concept and commitment concept. The ranking method is used as a form of analysis and presentation. It is an interesting result showing that there is consent on the ranking of the trust related questions within the formal partnering' category and within the informal partnering' and within the non-partnering' category. It is different to the result in the trust scale.

Questions	All respondents		Formal Partnering		Informal Partnering		Non-partnering	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
13. Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.	5.38	1	5.25	1	5.67	1	5.21	1
25. Company really cares about the fate of the 'X relationship'.	5.12	2	5.25	1	5.33	2	4.79	3
17. Company finds that its values and the 'X relationship''s values are very similar.	4.99	3	5	4	5.33	2	4.64	6

Table 112: Top three commitment related questions

All the respondents ranked the '13. Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.' to be the first rank. And the lowest rank is the '27r. Deciding to work with the 'X relationship' was a definite mistake on Company's part.' All respondents ranked it as the lowest rank. It is suggested the client have a constructor selection before the awarding of contract. It is suggested that the contractor have strategy in selection of the clients and sub-contractors. The selection of the clients and sub-contractors helps to reduce the possibility of working with 'wrong' parties. Therefore the question 27r was ranked at the lowest rank. It is also confirmed to the empirical studies carried out by Drew el at. (2001). This research was about the effect of client and type and size of construction work on the contractor' bidding behavior. The data was based on 100 consecutive bidding attempts from a large Hong Kong contractor during 1991-1994. The projects ranged from large civil engineering facilities to small common facilities. One of the result indicated that the

contractor's bidding behavour was found to be significantly affected by the client type. And the research also reported the contractor which provided data for the research that the reputation was also an important factor in getting work, particular in private sector. From this research, it may indicate that the nature of client is one of consideration of contractors before submitting their bid.

5.4 Discussion on data indication

5.4.1 Difficult to apply partnering tools universally

As mentioned in the literature review, Bresnen and Marshall (2000) stated that the partnering could not 'setup' by a universal set of systems, practices and procedures. The partnering was not suitable for any types of project and it was not a universal pills to any form of adversarial relationship in the construction industry (Bresnen and Marshall 2000). With the literature review on Japanese inter-firm cooperation which was originated in the buyer-supplier relationship and the partnering tools which developed by the western researchers, the partnering tools were 'copied from' the formal arrangements used by the large Japanese companies on their sub-assemblers or sub-contractors. It is suggested that the development of disputes resolution and development of project performance evaluation were developed based on the ideas of the 'cluster control structure' and 'sub-contractor grading'.

From the literature (Baker 1990, Bennett and Jayes 1996, Larson 1997, Mosley and Moore 1994, T. Eckert 1994, Weston and Gibson 1993), the project performances of projects in term of time, cost and quality were improved by adopting the partnering approach. However, according to this research, the trust level and commitment level which were considered as an indication of cooperative relationship of the partnering projects were at the same level with that of the non-partnering projects. It is supported by both Part One and Part Two Data analysis. It suggested that the partnering tools could not guarantee the 're-production' of the cooperative relationship as they were planned.

There is also common view that the full benefits of the partnering was not obtained in the current partnering project. The full benefits of partnering project were the continuous improvement in project performances through the maintaining high level of cooperation relationship along the supply chains which was observed in Japanese companies (Bennett 1998).

The implementation of partnering tools alone without the consideration of the culture, norms and values cannot give the desired outcomes. Although the project performance may improve in short-term, the core substance which is cooperative relationship cannot be 'engineered' by the partnering tools. A high level of trust and commitment, and mutual goal are the essences building the cooperative relationship in order to obtain full benefits of partnering.

It is similar to the large Japanese companies transplant their cooperative relationship working methodology to oversea's Japanese companies. In literature, there were several studies on the Japanese companies in the United States and Western Europe, researchers suggested that Japanese companies in these areas achieved a higher level of productivity and quality than the local companies. It might be due to the transplant of the parent Japanese companies' technical advances and managerial methodology of the cooperative working relationship (Nishiguchi 1994, Takamiya 1981). However those studies also reflected that those oversea' Japanese companies could not achieve performance as high as at their parent companies in Japan (Nishiguchi 1994). The research which conducted by Abo (1994) was an example.

Abo (1994) examined performance discrepancy between Japanese parent companies and Japanese companies which located in oversea. The research was conducted in survey and interview with 34 Japanese companies which located in the United States. The result of the research showed that Japanese companies which located in the United States achieved productivity in term of 15% cooperative labor relations and team-oriented workforces lower than that of their respective parent companies in Japan.

The reason of discrepancy in performance was, as mentioned in literature review, that the inter-firm cooperation was also maintained by social sanctions James & Soonkyoo (1998).

The example mentioned above indicated the difficulties of implementation of a same set of tools in different cultures. The effectiveness and efficiency are reduced by the difference in cultures. It is suggested that the implementation of partnering tools for development of partnering approach is far more difficult. The details will be covered later in the discussion on difficulties in obtaining mutual goals.

According to the result of this research, there is no significant difference in trust level and commitment level of the partnering projects and non-partnering projects. It suggested that the partnering tools are not effective and efficient initiate, develop and maintain the high level of trust and commitment which is considered as high level of cooperative relationship. The suggested reason is that the implementation of universal set of the tools without consideration of the social culture causes the ineffective and inefficient of the tools.

After the general comparison between the original Japanese inter-firm cooperation with the partnering tools, the more detailed discussion on the reasons that make the partnering tools becoming inefficient and ineffective will be covered below.

As discussed in the literature review, the partnering workshop is the main partnering tools to help to initiate, develop and maintain the partnering nature which are considered as trust and commitment, and mutual goals. The partnering workshop is designed to provide an open communication channel for the both parties to develop the mutual goals, the disputes and claims resolution methods and performance evaluation methods. They will be discussed as follows.

5.4.2 Difficult in setting mutual goals

In theory, the mutual goals of the both parties can be obtained after the open communication between the both parties in the partnering workshop. However it rarely occurs. There are three suggested reasons.

Firstly, the parties consider each other as the 'stranger' at the beginning of the projects. The parties tend to protect their own interest and do not discuss openly with each other. One party may suspect another party whether another party act at a good faith in the discussion or another party is only want to know the weakness or mistake of itself. Although the partnering workshops provide the open communication channel for the discussion, the parties tend to discuss the issue in more conservative way. As a result, the partnering workshops cannot function as it was designed, especially in a collectivelism society.

Hong Kong is a collectivelism society. Collectivists behave quite differently depending on whether the other person is a member of their in-group or is out-group. Triandis (1995) stated that "In-groups are based on similarity and common fate. The situation or setting itself is also crucial. The criterion that will be used to form in-groups depends on the importance of that attribute in the particular situation and culture". At the beginning of the partnering, it is difficult for the parties to consider each other as in-group. It is reasonable to assume that they consider each other as out-group. It is because they are different company with different company's objectives and strategies in carrying out business especially in the relationship between the client and contractor. The contractor makes profits from the 'client's pocket'. Moreover the current industrial culture is adversarial as mentioned in the literature review. When the collectivists consider another parties as out-group, their behavior is indifferent or dissociative (Triandis 1995). While the Individualists do not switch their behavior dramatically when an out-group member becomes an in-group member (Triandis). It may suggest the reason that the partnering tools may help to build up the cooperative relationship in the Western Europe and the United States which are individualism society. It suggests that the partnering workshop is

so difficult to function in the way that was designed especially in the collectivitism society. The mutual goals cannot be easily obtained. When the parties carry out the project without the mutual goals. It is hardy to believe that the trust and commitment can be easily developed. It is because both developments of trust and commitment based on sharing similar goals and values.

Secondly, when the improvement in the project performance in term of time, cost and quality is considered as the mutual goals, it is not surprise to discover that there is no improvement in trust level and commitment level. It is because the goals focus on the project performance in term of time, cost and quality only. There are no mutual goals considering the building up of cooperative relationship. It is a normal circumstance that the project performance in term of time, cost and quality are considered as goals. It is because works in the construction industry are project in nature. One of the characteristics of project is temporary in nature. It is formed only for the duration of procurement of project (Liu 1996). The short-term goals which are meeting the programme, completing within the budget and up to required quality are usually set. The development of cooperative relationship is a long-term goal which is usually not the focusing point of the construction parties. Without the mutual goals in the building up of the cooperative relationship, it is difficult to have an improvement in the trust level and commitment level. The partnering tools are considered as instruments to improve the project performance but not the trust level and commitment level.

Thirdly, most case studies in the literature stated that the partnering charter is signed after the contractors awarding the contract. The contractors had established its project goals in tendering stage. For example, there is common view that the contractor may develop a claim strategy in order to maximize their profits. Furthermore the contractors submitted a very competitive bidding and finally awarded the contract. And the culture of construction industry is adversarial. Generally, the contractors have perception that the client prefer put the risk on the contractor as much as possible. It is difficult for the contractors to believe the client acts in a good faith in adopting partnering approach after the tendering which adopts ‘the lowest bid win mechanism’. It is difficult to set the

mutual goals of the project after the beginning of the projects. The intention of adopting partnering should be clearly expressed to the contractors before the tendering stage.

5.4.3 Partnering tools usually are financial incentives in nature

Development of disputes and claims resolution method is the partnering tools designed to reduce the disputes and claims between both parties. The disputes and claims resolution method usually involve financial incentive scheme. For example, there is a share on the saving when the construction cost is below the target cost by certain percentage. As the disputes and claims are quickly resolved together by the financial incentive, the relationship between parties is believed to be improved and the trust level and commitment level is believed to be increased.

The development of the evaluation method is used to evaluate the performance of both parties. It provides information to figure out the potential problems and to indicate the performance of the parties. It is believed that it helps to improve the project performances and cooperative relationship. It is because the potential problems are identified and resolved without becoming the bigger problems. The actual benefits which can be completion part of works with lesser cost and faster time are revealed to the parties. The trust level is believed to be increased when the actual benefits are revealed.

In fact, both methods are not efficient and effective methods to improve the trust level and the commitment level. Both methods may increase the calculated based trust and calculative commitment in short term. It is because the economical benefits are revealed from the evaluation. However the calculative based trust and commitment is slightly effect on the trust and commitment. When those economic benefits no longer exist, the trust and commitment level will drops down quickly. In the literature review, the trust and commitment are multi-based. The moral base is suggested to have larger influence. Therefore, it is suggested that the partnering tools are not effective and efficient way to improve the trust level. It also explains that the trust level and commitment level are

higher in the formal partnering projects are not higher than that of the non-partnering projects.

5.4.4 The suggested reason for trust level and commitment level of informal partnering

There are two types of partnering which are defined in this research. They are formal partnering and informal partnering. According to the data analysis on One-Way ANOVA test and Least Significant Difference (LSD) in the chapter 4, both Part One and Part Two suggest that there is no significant difference in trust level and commitment level and individual questions between formal partnering projects and informal partnering projects.

According to the definition of formal partnering and informal partnering under this dissertation, the formal partnering is defined that the partnering process must exist. The signing of partnering charter and engagement in the partnering workshop are the example of partnering tools which is also known as partnering processes. The informal partnering is defined as a long-term business relationship which the Company always or often work with or cooperated with.

There is no significant difference in trust level and commitment level between informal partnering projects and non-partnering projects. It indicates that the long-time working relationship is not necessarily to increase the trust level and commitment level. But it only indicates part of the reality. The informal partnering is believed exists in Hong Kong construction industry. The data did not indicate the present of the informal partnering because of the research failed to identify it. The reasons for failing in identifying will be discussed in the following discussion of the situation of partnering existence.

The suggested reason is that the long-term relationship is only bind by the economical benefit such as obtaining a product at lower price with acceptable quality. The relationship can be maintained as long as the economic benefit is received. Therefore the trust level and the commitment level in the informal partnering category are not

necessary higher than that of the formal partnering category and that of non-partnering category.

Furthermore, this type of relationship is not sustainable. The relationship might be ended when there was another more attractive deal or there was no more economic benefits received. Green (1994, 1995) carried a case study on the oil and gas sector. The case study suggested that the economic conditions had strong influence or pressure on the contractors to agree more readily to develop alliances with clients (Green 1994). Bresnen (1996) further pointed out that the development or maintaining of cooperation between parties could be driven simply by reduce costs or to pass risks in short-term.

5.4.5 Discussion on linkage between cooperative relationship and partnering tools

The partnering was reviewed in form of two main components in literature review. The first one is highly cooperative relationship which is the fundamental element of partnering. The second one is the measurements which are developed to achieve the highly cooperative environment that is called partnering tools.

From the point of view on the cooperative relationship, it may not a new management or procurement approach. As discussed in the literature review (section 2.12), the importance of cooperative relationship was discussed for a long time in the construction industry. The Team Building, Teams, Inter-firm cooperation, Supply Chain Management, Total Quality Management were topics related to the cooperative relationship in the construction industry. The partnering may be considered as a conclusive topic which is on the top of the cooperative relationship related topics which were mentioned above.

From a more general point of view, it only is going back to the way people used to do business when a person's word was their bond and people accepted responsibility. People should carry out their works in good faith. It involves the ethics and morals aspects. Different people have different requirement or definition on the ethic. It is suggested

greatly influenced by the traditional culture and values. Therefore the cooperative relationship of partnering is strongly influenced by the informal institutional arrangement (traditional value, culture and customs) and slightly influenced formal institution arrangement Ordinance and contracts. The suggested illustration of relationship of elements of partnering approach is presents in Figure 2.

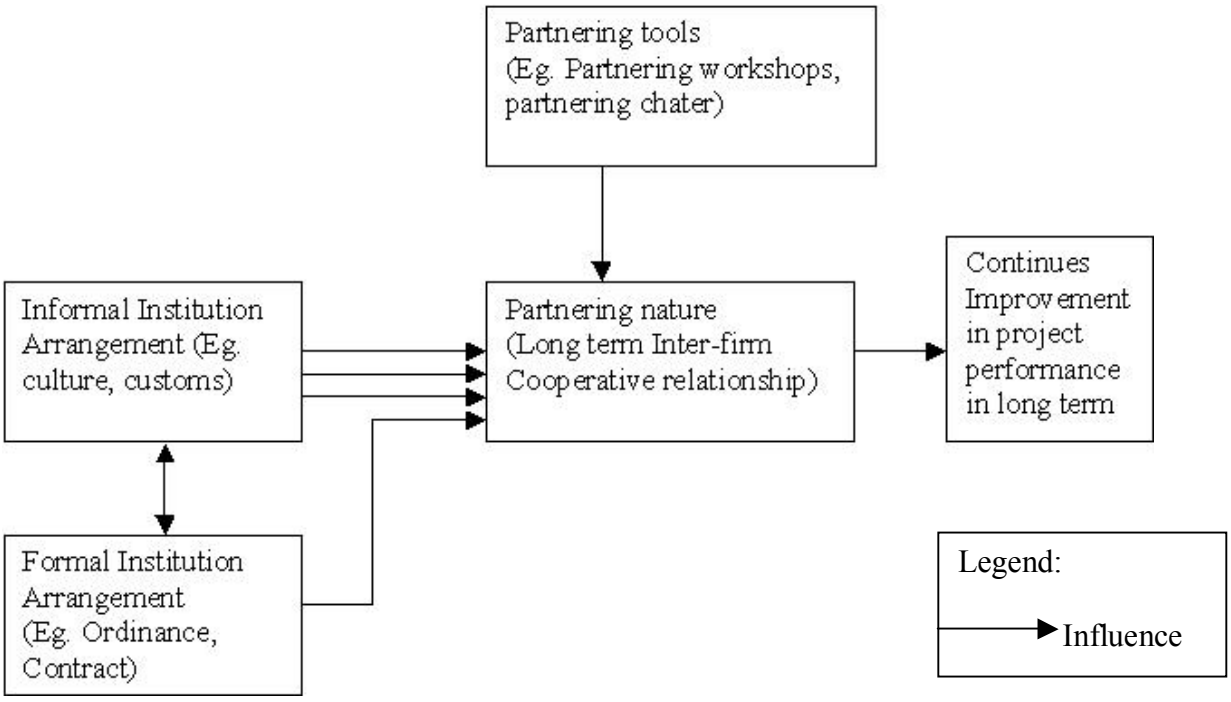


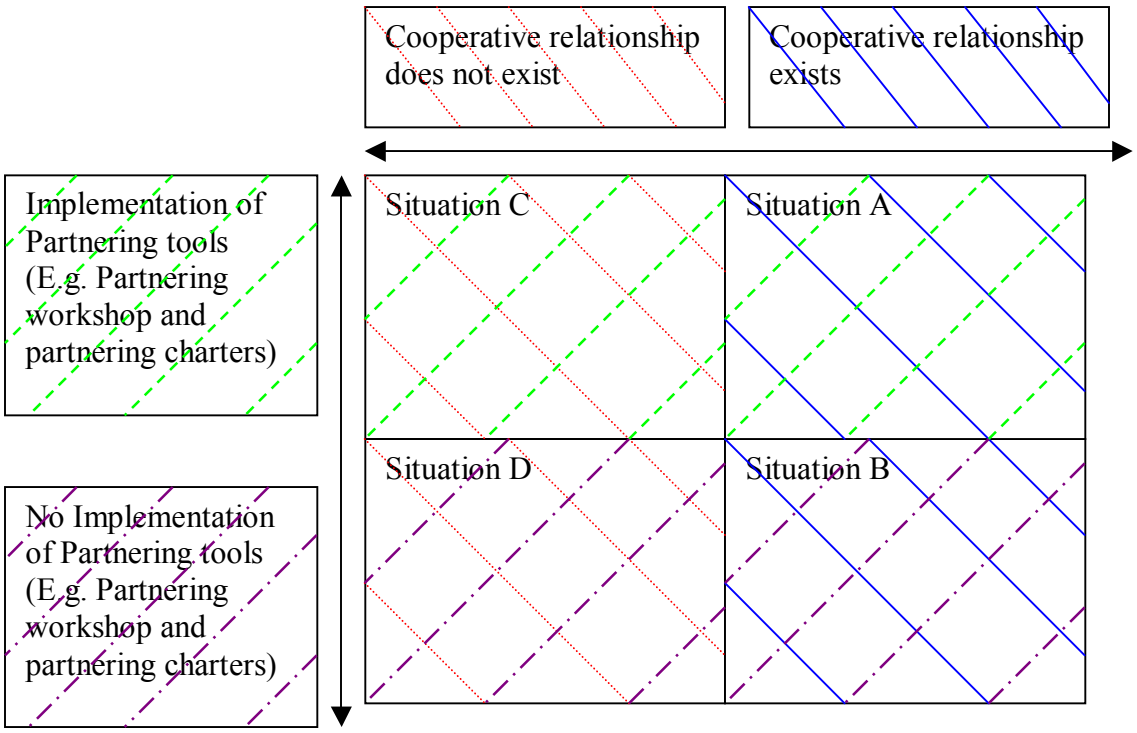
Figure 2: Illustration of relationship of elements of partnering approach

As the cooperative relationship is fundamental element of partnering, it is proper to state that a partnering must exist with the cooperative relationship. But it is not reasonable to state that there is a cooperative relationship when the partnering tools are implemented. The trust and commitment are important factors of the cooperative relationship as mentioned in the literature review (section 2.3). And they are multi-bases. There are different factors affecting the trust and commitment. Furthermore there is no strong evidence correlate partnering tools can improve the cooperative relationship. And the data analysis in the chapter 4 also indicated that there is no significant difference in trust

level and commitment level between the formal partnering category, informal partnering category and non-partnering category.

The partnering tool may be considered as a formality of the partnering. It is reasonable to state that the relationship between the cooperative relationship and the partnering tool is that the present of the partnering tool may/may not cause the present of the cooperative relationship. The partnering tool may improve the cooperative relationship in the short-term. The detail was discussed in the section 2.10. Although this research cannot indicate the duration of effect of the partnering tool, the result of this research indicated that the influence of the partnering tool is minimum or no influence in cooperative relationship which is in term of trust level and commitment level. It is because there is no significant different in trust level and commitment between formal partnering category and non-partnering category. It is confirmed by the Part One and Part Two data analysis. With reference to the Japanese inter-firm cooperation, the informal institutional arrangement and formal institutional arrangement also play an important role in influencing the cooperative relationship (Figure 2).

Base on the same reason, when the cooperative relationship exists, the partnering tool may/may not be present. It is not a causation relationship. Bresnen and Marshall (2000) carried out a research on case studies of the construction projects which carried out in the United Kingdom. The projects in case studies were ranged from medium to large scale. The aim of the research was to have a comparative analysis on both partnering or alliancing projects and non-partnering or non-alliancing projects in order to assess the transferability of collaboration practices. The findings of the research showed that the projects which used the traditional approach could also yield benefits which included the improvement in the project performance in term of time, cost and quality. And the collaboration which was presumed only could obtained by the partnering projects was also the outcome of non-partnering or non-alliancing projects (Bresnen and Marshall 2000). It indicates that the cooperative relationship can exist without the implementation of partnering tool. The situation of existing of partnering is illustrated in Figure 3.



Legend:
Situation A: A set of partnering tools is implemented (E.g. Partnering workshop and partnering charters). And the cooperative relationship exists between parties

Situation B: No implementation of a set of partnering tools (E.g. Partnering workshop and partnering charters). And the cooperative relationship exists between parties

Situation C: A set of partnering tools is implemented (E.g. Partnering workshop and partnering charters). And the cooperative relationship does not exist between parties

Situation D: No implementation of a set of partnering tools (E.g. Partnering workshop and partnering charters). And the cooperative relationship does not exist between parties

Figure 3: Illustration of the situation of partnering existence

There two cases for the existing of the situation A. The first case is the cooperative relationship is initiated, developed and maintained in form of long-term information exchange between the parties with mutual goals. And the partnering tool is also adapted as supplement. The second case is that the cooperative relationship is initiated, developed and maintained solely by the implementation of partnering tool. The first case exists. The

mentioned large Japanese automobile and electronics companies are an example. The second case is suggested to be rarely existed in reality in the construction as discussed before.

The situation B is defined as relationship between the large firm and the small contractors. Chiang et al. (2001) stated that large firms had maintained long term business relationships with their small groups of contractors and had retained almost exclusive service from them. This closely knitted network of business was characteristic of traditional Chinese management. (Redding 1990) The long term 'quan-xi' or personal trust was far more treasured than open competitive bidding.' It is believed that the situation B exists in Hong Kong Construction Industry. There are three suggested reasons for failing in identifying the situation B.

First, the sample size was not large enough to cover the respondents in this situation. Second, the people in the situation B are not willing to express their 'invisible' relationship and keep this relationship in secret. Third, due to the highly competitive construction market, this situation B is not existed. In my opinion, the second suggested reason is the most likely reasons. It is because the sample is structural planned which explained in the methodology. The construction companies in situation B are believed to be included based on the research plan. The suggested reason of the construction companies in situation B are not willing to express this 'invisible' relationship is that this relationship is not necessarily a relationship which can increase the reputation of the companies as the formal partnering. This relationship can be in form of 'inner-circle relationship' which is a negative term. It is because the current trend in the business market promotes the level play field for all potential competitors. The negative side of the 'inner-circle relationship' is that it is not necessary have continuously improvement in project performances. It is only a relationship which is used to ensure the continuous business within the member of 'inner-circle'. The benefits are distributed among the members of inner-circle without 'leaking out ' to the outer competitiors. It is especially significant in the collectivelism society, Hong Kong. The collectivelists tends to behave differently between 'in-group' and 'out-group' as mentioned before.

The situation C is the projects that adopted the formal partnering approach. The project partnering is an example of this situation. These projects only focus on the improvement of project performance in term of time, cost and quality without much consideration on the improvement of cooperation. The situation C was identified in this research.

The situation D is the projects that did not adopt any form of partnering or relationship. It represent the most projects in the Hong Kong construction industry. The situation D is identified in this research.

5.4.6 Discussion on the existing literature review

It is common view that the partnering approach can improve the performance of projects. There are case studies and empirical studies to proof the improvement in project performance by adopting the partnering approach. The partnering approach is considered as the solution of adversarial culture.

According to the result of this research, the partnering approach cannot guarantee a high level of the cooperative relationship in term of trust level and commitment level. Therefore the partnering approach cannot be strictly considered as solution. Furthermore, it is a paradox between adversarial culture and implementation of the partnering. The people who promote or support the adopting of the partnering approach also identified the implementation of partnering requires cultural change. (Bennett 1998) stated that "there will be no significant improvement by simply investing in new technology or attempting to improve design without culture change." It implies that the successful of partnering required the change in the culture which is the adversarial culture in the construction industry. The method of a solution to solve a problem is that it requires changing in the nature of problem in order to solve it.

Partnering is used to promote the cooperative relationship. The logic is that if the construction parties cooperate with each other, the performance of the work will be continues improvement.

The most strong and important evidence to support the partnering as the solution of solving the adversarial relationship is the development of cooperative relationship. However lots of the evidences in literature were solely on improvement in project performance.

The ultimate goal of partnering is the continue improvement in project performance through the introduction of cooperative relationship. The cooperative relationship and the partnering tool are two different elements. However, in the author opinion, there is a common view that process has strong influence on the nature. The partnering tool and the cooperative relationship were considered as highly related elements. It is illustrated in Figure 4.

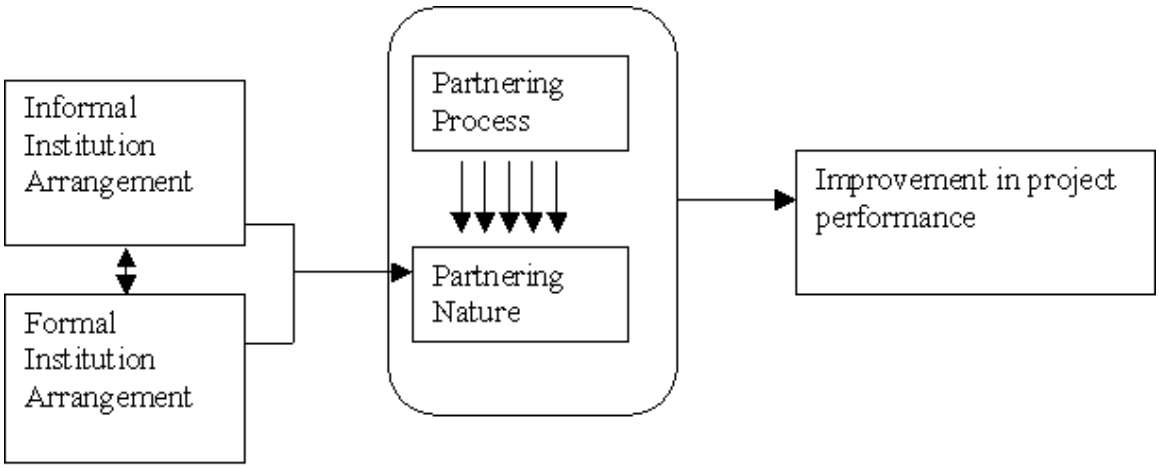


Figure 4: Illustration of relationship of elements of partnering approach
(In author opinions, the common view on the relationship between nature and process)

The result of this dissertation indicated that there is no significant difference in the trust level and commitment level between the formal partnering category and non-partnering category. It may suggests that that the partnering tool implemented in the formal partnering category cannot guarantee a higher level of cooperative relationship than that of non-partnering projects.

Or the level of cooperative relationship of non-partnering category is not necessary be at lower level. It is difficult to stated that the partnering is successful in improvement of performance by evaluate performance only.

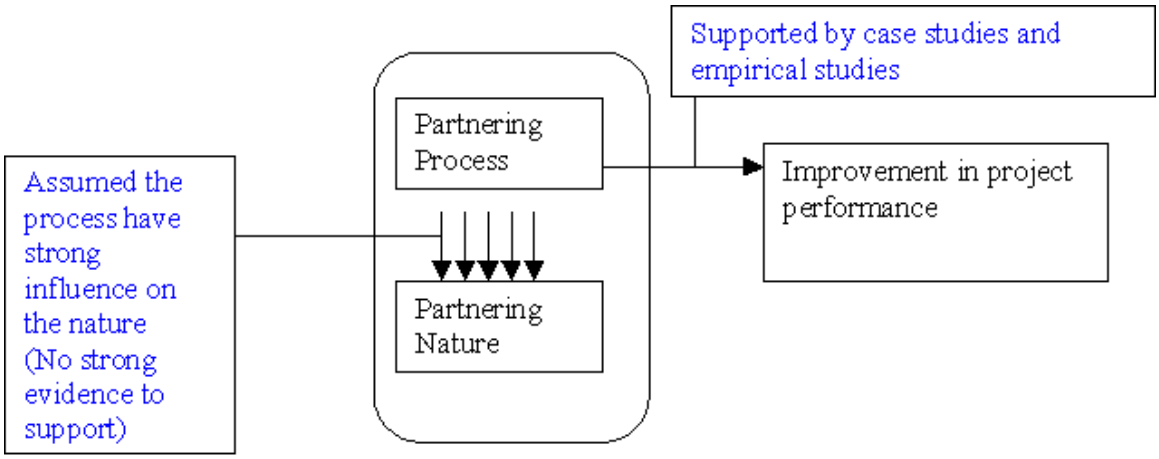


Figure 5: Illustration of relationship which is supported by evidence

Beside measurement of performance of the individual project in short term or measurement of performance of a series of projects in long term, the measurement of the cooperative relationship of partnering should be incorporated in order to determine whether the project which used partnering approach is successful or not. It is because 'the partnering' without the cooperative relationship lose it's value which is considered the solution of the adversarial culture in the construction industry.

5.4.7 Discussion on the concept of partnering from the different perspective

As mentioned in the literature review, the strategic partnering concept was emerged from the Japan manufacturing industry. The partnering concept is discussed by comparing the origin of partnering concept which was Japanese inter-firm cooperation. The Japanese inter-firm cooperation was developed between the large Japanese companies and the small Japanese companies which were the sub-contractors or sub-assemblers of the large companies. There was a master-to-subsidiary relationship between the companies. From this perspective, the literal meaning of partnering cannot clearly describe this cooperative relationship. The detail was covered in the literature review. The literal meaning of the partnering does not reflect the implied master-to subsidiary relationship. And the large companies in Japan invested a large amount of capital to help their sub-contractor or sub-assembler to improve their performance. The advance technology was also transplanted to their sub-contractor or sub-assembler. It indicated that the cooperation relationship was developed or maintained by one party sacrificing certain interest. This sacrificing act was protected by the social sanction as discussed in the literature review. Because of the large companies invested lots of capital on their sub-contractors or sub-assemblers, the large companies would own certain to substantial shares or equities on their sub-contractors and sub-assemblers. These sub-contractors or sub-assemblers would become the subsidiaries of the large companies. The relationship between the sub-contractors or sub-assemblers and the large companies would be interdependent. It further reinforced the cooperative relationship. It is because the large companies would be in trouble when their subsidiaries performed badly. In case of a substantial number of their subsidiaries performed badly, the large parent companies would collapse if

From the discussion of the Japanese inter-firm cooperation, three main factors which are essential in maintaining the inter-firm cooperation are identified. The first one is that one party is willing to sacrifice certain interests in helping another party in the master-to-subsidiary relationship. The second one is that the cooperative relationship is control and monitored by the social sanction. The third one is that the cooperative relationship is further reinforced by having possession of another party's equity.

From the observation of the inter-firm cooperation in Japanese industry, the solely implementation of a universal set of partnering tools without cannot guarantee a desired improvement in project performance which was observed in the Japanese industry.

Beside a strong social sanction on monitoring and controlling the cooperative relationship, the distribution of equities between large parent companies and its subsidiaries also reinforce the relationship. The partnering tools only a one of factors in initiating, developing and maintaining the cooperative relationship.

6. Conclusion

This chapter presents the conclusion, limitation and recommendation for further research. The conclusion of the discussion on the findings will be presented. Then the limitation will be covered. Finally, the recommendation for further research will be suggested.

6.1 Conclusion on findings

This dissertation confirmed the hypothesis that "There is no significant difference in trust level and commitment level between the formal partnering category, informal partnering category and non-partnering category" by the two parts of data analysis provide.

The Part One is using the One-Way ANOVA for hypothesis testing of whether the level of cooperative relationship in term of trust level and commitment level of the formal partnering category, the informal partnering category and non-partnering category is in significant difference or not. The least significant difference (LSD) is calculated in order to compensate the weakness of One-Way ANOVA which cannot test whether the categories differ from one another.

The Part Two is using the One-Way ANOVA for hypothesis testing on the individual questions in the questionnaire in order to further investigate whether there is difference in the score of the individual questions between the three categories. It is because the basis of the hypothesis testing of the part one is the total score. The differences between scores of individual questions are subjected to be averaged out when they are summarized up into the total score.

The result of Part One stated that there is no significant difference in trust level and commitment level between the formal partnering category, informal partnering category and non-partnering category.

The result of Part Two stated that there is no significant difference in the individual questions between the formal partnering category, informal partnering category and non-partnering category. And the Part Two also indicates that the formal partnering cannot change the behaviors of the respondents. It is because the rating of the individual questions of the formal partnering category does not differ from that of the informal partnering category and non-partnering category. According to the result, the suggestion of partnering approach can change or improve the existing behaviors is weak.

The Part One and Part Two indicates that the partnering approach is not necessary guarantee a higher level of cooperative relationship in term of trust level and commitment level. And the result of Part One and Part Two suggests that the partnering tool implemented in the formal partnering category is not necessary guarantee a higher level of cooperative relationship in term of trust level and commitment level.

This research is not used to provide a representative sample. It is used to provide indication that there are no significant difference in cooperative relationship (in term of trust level and commitment level) of formal partnering projects and the non-partnering project. The result is indicative based on reasons stated below. Although there are only 24 successful and valid respondents in the sampling base of 100, the response rate is acceptable and the respondent covered all three categories of projects which are formal partnering projects, informal partnering projects and non-partnering projects.

This research cannot provide a representative sample to proof that the partnering tools cannot help to initiate, develop and maintain the cooperative relationship. But it provides indication that the partnering tools are not necessary to guarantee a higher level of cooperative relationship in term of trust and commitment of the formal partnering projects than that of the non-partnering projects. It is because the trust level and commitment levels are about at the same level to that of the non-partnering projects which did not use any partnering tools. It is believed that the cooperative relationship of partnering cannot be ‘engineered’ by simple implementation of a set of partnering tools.

The social sanction and interdependence (for example, due to the possession of shares or equities on another parties) of the parties also play importance roles.

The most important benefit of the partnering approach is the improvement in or promotion of the inter-firm cooperative relationship. It is considered as the solution to the adversarial culture in the construction industry. However this research provides indication that the partnering approach cannot guarantee the high level cooperative relationship in term of trust level and commitment level.

Moreover, the cooperative relationship does not necessary only exist in the partnering projects. Bresnen and Marshall (2000) carried out a research on case studies of the construction projects which carried out in the United Kingdom. The findings of the research showed that the projects which used the traditional approach could also yield benefits which included the improvement in the project performance in term of time, cost and quality. And the collaboration was also the outcome of non-partnering or non-alliancing projects (Bresnen and Marshall 2000). It indicates that the cooperative relationship can exist without the implementation of partnering tool.

A more in-depth analysis on the contribution of partnering tools on the improvement of the cooperative relationship is required. Otherwise the partnering will be considered as an approach which integrated different measurements such as supply chain management and total quality management to improve the project performances. Then there will be no value for existence of partnering. There are many methods can replace the partnering such as Total Quality Management (TQM).

6.2 Limitations

This research is limited in the generalizability of the sample. It is because this research was in voluntary basis. The participations of the target group of respondents were based on their own decision. And the sample size was not large enough to give any representative conclusion. But this research can indicate the problem by testing this dissertation hypothesis which is the intention of this dissertation.

Although the trust and commitment were considered as relative important factors affecting the cooperative relationship, the factors are not limited to the trust and commitment. The level of trust and commitment may only reflect a portion of level of cooperative relationship. But it is enough to give indication.

The received trust level and commitment level for the formal partnering projects, informal partnering projects and non-partnering projects were only indication of the general impression of a cluster of projects that the respondent experienced. The levels cannot reflect the actual trust level and commitment level for a particular of project. As the levels are the average levels of past projects, the data cannot be valid by investigation of project particulars.

The trust level and commitment level only indicate the main contractor's trust level and commitment level. It cannot indicate the trust level and commitment level of clients, consultants, suppliers and sub-contractors.

The definitions of terms may be interpreted differently from what the author was intended to present. The discrepancy in terms may cause the irrelevant answers. It would be better to give detail explanation of each term to avoid any misunderstandings. However it would increase the difficulties and time in completing the questions.

6.3 Recommendation for further studies

An empirical study on the relationship between partnering tools and the cooperative relationship is recommended as the further studies. It will give insight for the effectiveness and efficiency of the partnering tools in the improvement of the cooperative relationship. The empirical study will help to identify the problems. It will cause more people to re-examine the cooperative relationship of partnering and to invesitgate whether it is suitable or not to consider it as solution of the adversarial culture.

Finally, I would like to express my impression that Partnering is an interesting word to describe a cluster of interesting relationship. The interesting stuff is its ambiguity in nature.

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Appendix I Sample of questionnaire

The sample of questionnaire

The University of Hong Kong

Department of Real Estate and Construction
Year 3 Dissertation
Questionnaire

This questionnaire contains five pages and is divided into mainly two parts. The first part is the basic information of your company and partner, the second part is the partnering experience or working experience. The questionnaires received will be used for analysis in my dissertation, which is for investigation of current situation of partnering in construction industry. All data collected will be solely for academic purpose and the identity of individuals will not be revealed without your consent. Please return the completed questionnaire before 16th February 2007

Interviewee Information

Company Name:	
Position in the company:	
Working Experience:	
Filling in Date:	
Contact method (optional):	Phone no.:_____ Email:_____
Would you be available for a short interview by phone or face to face interview?	☐ Face to face interview ☐ Phone ☐ No

Section (A)

(i) What is a role of Company in construction project (Client, Consultant, Main contractor, Sub-contractor or Supplier)?

_____

(ii) Company is domestic company or foreign company?

_____

(iii) What is a role of partner/ an ordinary company having business with your Company in construction project (Client, Consultant, Main contractor, Sub-contractor or Supplier)?

_____

(iv) What is the way to establish and maintain the partner?
(If no partner is established, please tick (c) No partner established.)

Tick the representation of your way in establish the partner and follow the instruction to answer the Section B.

(a) By formal partnering approach (such as signed partnering charter and engaged in partnering workshop) ☐

(Please base on your experience on the project that company have used formal partnering approach to answer the following questions in section B. Partner is indicated as 'Y'. And 'X relationship' means that partnering relationship that formed between 'Y' and Company by formal partnering approach)

(b) By informal partnering approach(Partner can be interrupted as: Other company/ companies that Company always/often worked with/cooperated with for a long time in carrying out the company's business) ☐

(Please base on your experience on the project that company have used formal partnering approach to answer the following questions in section B. Partner is indicated as 'Y'. And, in section C, 'X relationship' means that partnering relationship that formed between 'Y' and Company by informal partnering approach)

(c) No partner established ☐

(Please answering the following questions in section B in the way that 'Y' is an ordinary company having business with your Company. Please answering the questions in section C in the way that 'X relationship' means that the relationship between 'Y' and your Company)

Section (B)

Based on your experience on the project that Company has used formal or informal or without partnering approach to answer the following questions.

The following questions are anonymous, and there are no right of wrong answers.

It is set to know if you strongly agree or disagree with some statements. If you strongly agree, enter a 7 in the blank space; if you strongly disagree, enter a 1 in that space; if you are unsure, enter a 4 next to statement.

In short, use this key:

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

The following questions are modified from the (Lau Hat Lan, 2005) and (Porter et al., 1974)

1. Company share information openly with 'Y' because it do not take advantage of Company.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

2. Company monitor changes in situations so that 'Y' will not take advantages of such changes.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

3. In, negotiations, Company question 'Y''s statements regarding their capabilities.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

4. Company knows how 'Y' is going to act. It can always be counted on to acts as Company expect.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

5. Company check 'Y''s actions to avoid being taken advantage of.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

6. Company work openly with 'Y' because it will not take advantage of Company.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

7. Company monitor 'Y' closely so that they cannot take advantage of Company.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

8. Company cannot always be sure what 'Y' will surprise Company next as its action tends to be quiet variable.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

9. Company monitors the compliance of 'Y' in fulfilling joint agreements.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

10. Company watch for misleading information from 'Y' in negotiations.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

11. Company watch to see whether 'Y' meets its deadlines.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

12. Company cannot always be certain how 'Y' is going to act from one day to another as 'Y' is not very predictable.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

Section C

(Please refer to section A. The Meaning of 'X relationship is based on your selection in section A (iv).)

13. Company is willing to put in a great deal of effort beyond that normally expected in order to help 'X relationship' be successful.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

14. Company talks up the 'X relationship' to other companies as a great relationship to work for.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

15. Company feels very little loyalty to the 'X relationship'.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

16. Company would accept almost any type of job assignment in order to keep working for the 'X relationship'.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

17. Company finds that its values and the 'X relationship''s values are very similar.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

18. Company is proud to tell other companies that Company is part of the 'X relationship'.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

19. Company could just as well be working for a different relationship as long as the type of work were similar.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

20. The ‘X relationship’ really inspires the best in Company in the way of job performance.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

21. It would take very little change in present circumstances to cause Company to leave the ‘X relationship’.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

22. Company is extremely glad Company chose the ‘X relationship’ to work for over others Company was considering at the time Company joined.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

23. There’s not much to be gained by sticking with the ‘X relationship’ indefinitely.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

24. Often, Company finds it difficult to agree with the ‘X relationship’’s policies on important matters related to its ‘Y’.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

25. Company really cares about the fate of the ‘X relationship’.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

26. For Company, this is the best of all relationships for which to work with.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

27. Deciding to work with the ‘X relationship’ was a definite mistake on Company’s part.

Strongly disagree 1 2 3 4 5 6 7 Strongly agree

This is the end of Questionnaire
Thank You

Appendix II Scoring Key

Scoring Key for the Trust Scale

1. For the following questions, use the recorded response as the score:

Questions 1, 2, 4, 6, 9, 11

2. For the following questions, take the recorded response and convert it.

Questions 3, 5, 7, 8, 10, 12

Recorded Score	Converted to Score
1	7
2	6
3	5
4	4
5	3
6	2
7	1

3. Add up the points for each question. The total is the score

4. Higher scores indicates higher level of trust

Scoring Key for the Commitment Scale

1. For the following questions, use the recorded response as the score:

Questions 13, 14, 16, 17, 18, 20, 22, 25, 26

2. For the following questions, take the recorded response and convert it.

Questions 15, 19, 21, 23, 24, 27

Recorded Score	Converted to Score
1	7
2	6
3	5
4	4
5	3
6	2
7	1

3. Add up the points for each question. The total is the score

4. Higher scores indicates higher level of commitment

Appendix III Collected Data

Collected Data

Score for formal partnering category (from Q1 to 12)

Please refer to appendix I for the detail of questions	MC-C (R1)	MC-C-SC (R2)	MC-C (R3)	MC-SC (R4)
Q1.	5	6	4	5
Q2.	4	7	5	5
Q3r.	3	2	5	2
Q4.	4	3	5	5
Q5r.	3	1	5	1
Q6.	7	7	5	5
Q7r.	2	2	4	1
Q8r.	4	5	3	1
Q9.	6	7	5	7
Q10r.	5	7	4	3
Q11.	5	6	5	6
Q12r.	6	6	3	1
Score	54	59	53	42

Mean score for formal partnering category (from 1 to 12)	52	Maximum score (from 1 to 12)	59	Minimum score (from 1 to 12)	42

Score for formal partnering category from (Q13-27)

Please refer to appendix I for the detail of questions	MC-C (R1)	MC-C-SC (R2)	MC-C (R3)	MC-SC (R4)
Q13.	5	6	5	5
Q14.	6	5	4	4
Q15r.	6	6	6	3
Q16.	2	1	4	5
Q17.	4	6	5	5
Q18.	6	5	5	5
Q19r.	3	6	3	2
Q20.	5	4	5	4
Q21r.	5	2	5	5
Q22.	4	4	4	5
Q23r.	5	6	6	3
Q24r.	6	6	5	3
Q25.	5	6	5	5
Q26.	4	3	4	3
Q27r.	7	5	7	6
Score	73	71	73	63

Mean score for formal partnering category (from 13 to 27)	70	Maximum score (from 13to 27)	73	Minimum score (from 13to 27)	63

Score for informal partnering category (from Q1 to 12)

Please refer to appendix I for the detail of questions	MC-SC (R5)	MC-C-SC (R6)	MC-C (R7)	MC-C (R8)	MC-SC (R9)	MC-SC (R10)
Q1.	4	5	4	4	5	5
Q2.	5	6	5	5	6	6
Q3r.	6	3	5	7	3	2
Q4.	4	2	5	4	3	6
Q5r.	2	4	5	3	4	2
Q6.	2	3	5	4	3	6
Q7r.	2	4	4	3	5	2
Q8r.	3	6	3	2	6	5
Q9.	4	4	5	5	4	6
Q10r.	3	6	4	3	5	6
Q11.	4	6	5	4	6	6
Q12r.	4	4	3	4	4	6
Score	43	53	53	48	54	58

Mean score for informal partnering category (from 1 to 12)	51.5	Maximum score (from 1 to 12)	58	Minimum score (from 1 to 12)	43

Score for informal partnering category from (Q13-27)

	MC-SC (R5)	MC-C-SC (R6)	MC-C (R7)	MC-C (R8)	MC-SC (R9)	MC-SC (R10)
Q13.	5	7	5	5	6	6
Q14.	4	4	4	5	4	5
Q15r.	3	6	6	3	6	6
Q16.	3	2	4	4	3	4
Q17.	4	6	5	5	6	6
Q18.	2	6	5	5	6	3
Q19r.	3	3	3	3	3	4
Q20.	5	2	5	5	4	5
Q21r.	3	3	5	3	3	5
Q22.	4	3	4	5	4	3
Q23r.	2	3	6	6	3	5
Q24r.	5	5	5	6	5	4
Q25.	4	6	5	5	6	6
Q26.	4	7	4	4	7	4
Q27r.	6	7	7	6	7	6
Score	57	70	73	70	73	72

Mean score for informal partnering category (from 13 to 27)	69.17	Maximum score (from 13 to 27)	73	Minimum score (from 13 to 27)	57

Score for non-partnering category (from Q1 to 12)

Please refer to appendix I for the detail of questions	MC-SC (R11)	C-MC (R12)	MC-SC (R13)	MC-C-SC (R14)	MC-C-SC (R15)	MC-C-SC (R16)	MC-C (R17)
Q1.	4	3	7	5	4	5	5
Q2.	5	5	7	6	5	6	5
Q3r.	6	4	1	2	4	3	3
Q4.	4	5	3	6	5	3	3
Q5r.	5	3	4	1	3	3	2
Q6.	2	5	4	5	5	4	6
Q7r.	5	3	3	2	3	3	3
Q8r.	6	5	4	2	5	4	5
Q9.	4	4	4	7	5	4	6
Q10r.	5	3	2	5	3	3	5
Q11.	4	6	7	6	5	6	6
Q12r.	4	5	4	1	5	4	6
Score	54	51	50	48	52	48	55

Please refer to appendix I for the detail of questions	MC-SC (R18)	MC-C (R19)	MC-C (R20)	MC-C (R21)	MC-SC (R22)	MC-SC (R23)	MC-C-SC (R24)
Q1.	4	5	5	5	6	5	6
Q2.	5	4	4	4	5	4	4
Q3r.	4	3	4	4	2	4	4
Q4.	5	4	5	5	3	4	6
Q5r.	2	3	5	2	3	4	4
Q6.	2	7	4	6	6	6	6
Q7r.	2	2	4	5	2	4	4
Q8r.	2	3	4	4	4	4	4
Q9.	4	4	5	5	6	6	5
Q10r.	3	6	4	5	5	5	4
Q11.	5	6	4	5	6	5	6
Q12r.	3	5	3	6	5	5	5
Score	41	52	51	56	53	56	58

Mean score for non-partnering category (from 1 to 12)	51.79	Maximum score (from 1 to 12)	58	Minimum score (from 1 to 12)	41

Score for non-partnering category (from Q13-27)

	MC-SC (R11)	C-MC (R12)	MC-SC (R13)	MC-C-SC (R14)	MC-C-SC (R15)	MC-C-SC (R16)	MC-C (R17)
Q13.	5	3	6	5	3	6	6
Q14.	4	4	5	6	5	5	5
Q15r.	3	4	5	2	4	5	6
Q16.	3	3	3	5	3	4	1
Q17.	4	4	4	6	4	4	6
Q18.	2	4	4	7	4	3	5
Q19r.	3	3	3	2	3	3	5
Q20.	5	5	5	5	5	5	4
Q21r.	3	4	3	6	3	3	2
Q22.	4	4	4	6	4	4	4
Q23r.	2	3	5	6	3	5	5
Q24r.	5	5	3	3	4	2	5
Q25.	4	5	5	2	5	5	6
Q26.	4	4	5	2	4	5	3
Q27r.	6	5	5	6	5	6	6
Score	57	60	65	69	59	65	69

	MC-SC (R18)	MC-C (R19)	MC-C (R20)	MC-C (R21)	MC-SC (R22)	MC-SC (R23)	MC-C-SC (R24)
Q13.	5	5	5	6	6	6	6
Q14.	4	5	4	5	5	5	5
Q15r.	3	6	6	6	6	5	6
Q16.	3	2	4	2	3	4	2
Q17.	4	4	5	5	5	5	5
Q18.	2	6	5	6	5	4	5
Q19r.	3	3	3	4	4	3	3
Q20.	5	5	5	5	4	5	5
Q21r.	3	6	5	6	4	6	5
Q22.	4	4	4	4	4	5	4
Q23r.	3	5	6	5	6	5	5
Q24r.	4	5	4	5	5	4	3
Q25.	4	4	5	6	6	5	5
Q26.	4	4	4	4	3	4	4
Q27r.	6	7	6	7	5	6	6
Score	57	71	71	76	71	72	69

Mean score for non-partnering category (from 13 to 27)	66.5	Maximum score (from 13 to 27)	76	Minimum score (from 13 to 27)	57

Mean score for individual question for formal partnering category (from Q1 to 12)

Questions	Mean score
Q1.	5
Q2.	5.25
Q3r.	5
Q4.	4.25
Q5r.	5.5
Q6.	6
Q7r.	5.75
Q8r.	4.75
Q9.	6.25
Q10r.	3.25
Q11.	5.5
Q12r.	4

Mean score for individual question for formal partnering category (from Q13 to 27)

Questions	Mean score
Q13.	5.25
Q14.	4.75
Q15r.	2.75
Q16.	3
Q17.	5
Q18.	5.25
Q19r.	4.5
Q20.	4.5
Q21r.	3.75
Q22.	4.25
Q23r.	3
Q24r.	3
Q25.	5.25
Q26.	3.5
Q27r.	1.75

Mean score for individual question for informal partnering category (from Q1 to 12)

Questions	Mean score
Q1.	4.5
Q2.	5.5
Q3r.	3.67
Q4.	4
Q5r.	4.67
Q6.	3.83
Q7r.	4.25
Q8r.	3.83
Q9.	4.67
Q10r.	3.5
Q11.	5.17
Q12r.	3.83

Mean score for individual question for informal partnering category (from Q13 to 27)

Questions	Mean score
Q13.	5.67
Q14.	4.33
Q15r.	3
Q16.	3.33
Q17.	5.33
Q18.	4.5
Q19r.	4.83
Q20.	4.33
Q21r.	4.33
Q22.	3.83
Q23r.	3.83
Q24r.	3
Q25.	5.33
Q26.	5
Q27r.	1.5

Mean score for individual question for non-partnering category (from Q1 to 12)

Questions	Mean score
Q1.	4.93
Q2.	4.93
Q3r.	4.57
Q4.	4.36
Q5r.	4.86
Q6.	4.86
Q7r.	4.79
Q8r.	4
Q9.	4.93
Q10r.	3.86
Q11.	5.5
Q12r.	3.64

Mean score for individual question for non-partnering category (from Q13 to 27)

Questions	Mean score
Q13.	5.21
Q14.	4.79
Q15r.	3.21
Q16.	3
Q17.	4.64
Q18.	4.43
Q19r.	4.79
Q20.	4.86
Q21r.	3.79
Q22.	4.21
Q23r.	3.43
Q24r.	3.93
Q25.	4.79
Q26.	3.86
Q27r.	2.14

Data Results computed by SPSS 15

Comparing of total mean score of trust and commitment level

Descriptives

Trust_and_Commitment_Levels

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
formal partnering	4	122.0000	11.46008	5.73004	103.7645	140.2355	105.00	130.00
informal partneri	6	120.6667	10.91177	4.45471	109.2155	132.1179	100.00	130.00
non partnering	14	118.2857	9.07599	2.42566	113.0454	123.5260	98.00	132.00
Total	24	119.5000	9.58713	1.95696	115.4517	123.5483	98.00	132.00

Test of Homogeneity of Variances

Trust_and_Commitment_Levels

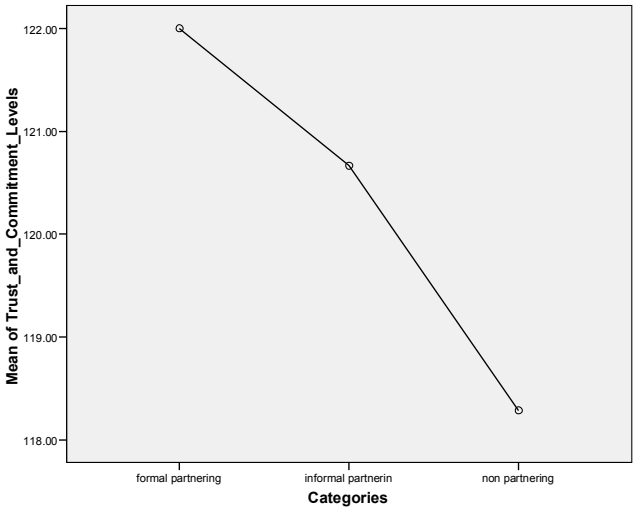
Levene Statistic	df1	df2	Sig.
.060	2	21	.942

ANOVA

Trust_and_Commitment_Levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	53.810	2	26.905	.274	.763
Within Groups	2060.190	21	98.104		
Total	2114.000	23			

Mean Plots



Data Results computed by SPSS 15

Comparing of mean score of trust level

Descriptives

Trust_Level

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
formal partnering	4	52.0000	7.16473	3.58236	40.5993	63.4007	42.00	59.00
informal partneri	6	51.5000	5.24404	2.14087	45.9967	57.0033	43.00	58.00
non partnering	14	51.7857	4.29988	1.14919	49.3030	54.2684	41.00	58.00
Total	24	51.7500	4.81167	.98218	49.7182	53.7818	41.00	59.00

Test of Homogeneity of Variances

Trust_Level

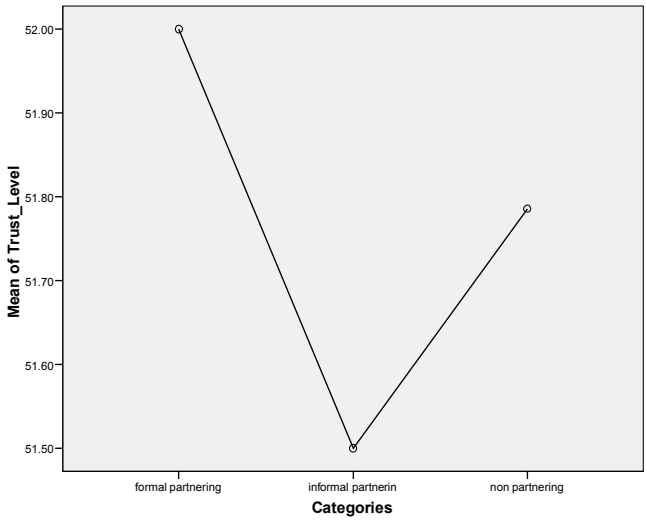
Levene Statistic	df1	df2	Sig.
.638	2	21	.538

ANOVA

Trust_Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.643	2	.321	.013	.987
Within Groups	531.857	21	25.327		
Total	532.500	23			

Mean Plots



Data Results computed by SPSS 15

Comparing of mean score of commitment level

Descriptives

Commitment_Level

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
formal partnering	4	70.0000	4.76095	2.38048	62.4243	77.5757	63.00	73.00
informal partneri	6	69.1667	6.11283	2.49555	62.7516	75.5817	57.00	73.00
non partnering	14	66.5000	6.09855	1.62991	62.9788	70.0212	57.00	76.00
Total	24	67.7500	5.86997	1.19820	65.2713	70.2287	57.00	76.00

Test of Homogeneity of Variances

Commitment_Level

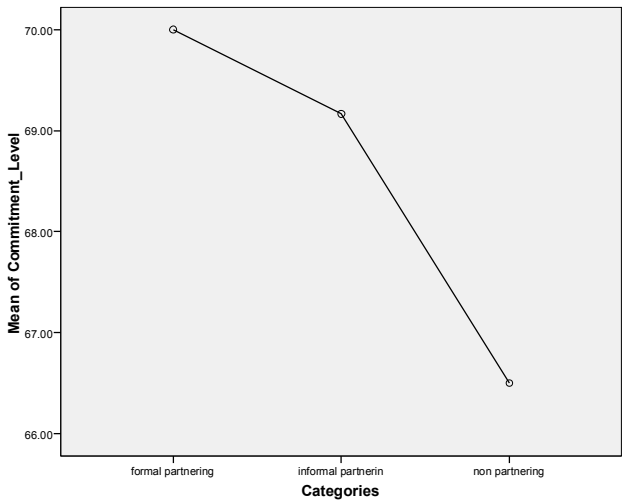
Levene Statistic	df1	df2	Sig.
.512	2	21	.607

ANOVA

Commitment_Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	54.167	2	27.083	.770	.476
Within Groups	738.333	21	35.159		
Total	792.500	23			

Mean Plots



Data Results computed by SPSS 15

Kendall's coefficient of concordance (W) test on ranking of Q1 to 12 for formal partnering category

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Q1	4	6.25	2.062	4	8
Q2	4	4.50	4.041	1	8
Q3	4	6.50	3.109	4	11
Q4	4	6.50	3.697	1	9
Q5	4	4.25	4.717	1	11
Q6	4	2.75	3.500	1	8
Q7	4	4.00	3.162	1	8
Q8	4	4.75	4.349	1	9
Q9	4	1.25	.500	1	2
Q10	4	9.75	2.062	8	12
Q11	4	4.00	2.160	1	6
Q12	4	6.25	6.076	1	12

Kendall's (W) test

Ranks

	Mean Rank
Q1	7.75
Q2	6.38
Q3	7.50
Q4	8.13
Q5	5.63
Q6	4.38
Q7	5.25
Q8	6.38
Q9	3.00
Q10	10.50
Q11	5.63
Q12	7.50

Test Statistics

N	4
Kendall's W[a]	.335
Chi-Square	14.729
df	11
Asymp. Sig.	.195

a. Kendall's Coefficient of Concordance

Data Results computed by SPSS 15

Kendall's coefficient of concordance (W) test on ranking of Q1 to 12 for informal partnering category

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Q1	6	6.00	2.530	3	9
Q2	6	1.50	.837	1	3
Q3	6	6.83	4.997	1	12
Q4	6	5.50	3.728	1	10
Q5	6	4.17	3.817	1	11
Q6	6	6.17	4.215	1	11
Q7	6	4.17	3.312	1	8
Q8	6	6.17	5.037	1	12
Q9	6	3.33	2.251	1	6
Q10	6	7.00	3.688	2	11
Q11	6	2.83	2.858	1	7
Q12	6	5.83	3.251	1	11

Kendall's (W) test

Ranks

	Mean Rank
Q1	7.00
Q2	3.25
Q3	7.75
Q4	7.67
Q5	5.67
Q6	7.92
Q7	5.83
Q8	7.00
Q9	5.50
Q10	8.17
Q11	4.75
Q12	7.50

Test Statistics

N	6
Kendall's W[a]	.204
Chi-Square	13.436
df	11
Asymp. Sig.	.266

a. Kendall's Coefficient of Concordance

Data Results computed by SPSS 15

Kendall's coefficient of concordance (W) test on ranking of Q1 to 12 for non-partnering category

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Q1	14	4.43	3.546	1	10
Q2	14	4.07	2.495	1	8
Q3	14	5.50	2.849	1	10
Q4	14	5.21	4.023	1	12
Q5	14	4.14	3.348	1	12
Q6	14	4.36	4.181	1	12
Q7	14	4.14	2.656	1	10
Q8	14	6.86	2.852	1	11
Q9	14	4.00	3.305	1	9
Q10	14	6.86	3.697	1	12
Q11	14	2.14	1.406	1	5
Q12	14	7.93	4.215	1	12

Kendall's (W) test

Ranks

	Mean Rank
Q1	5.79
Q2	5.82
Q3	7.18
Q4	6.86
Q5	5.71
Q6	5.82
Q7	5.96
Q8	8.46
Q9	5.43
Q10	8.29
Q11	3.79
Q12	8.89

Test Statistics

N	14
Kendall's W[a]	.195
Chi-Square	30.078
df	11
Asymp. Sig.	.002

a. Kendall's Coefficient of Concordance

Data Results computed by SPSS 15

Kendall's coefficient of concordance (W) test on ranking of Q13 to 27 for formal partnering category

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Q13	4	1.75	.957	1	3
Q14	4	6.00	4.163	1	11
Q15	4	9.50	5.066	2	13
Q16	4	9.00	5.715	2	15
Q17	4	2.75	2.872	1	7
Q18	4	2.25	1.893	1	5
Q19	4	4.00	4.761	1	11
Q20	4	5.50	4.435	1	11
Q21	4	8.75	5.315	1	13
Q22	4	5.75	2.500	2	7
Q23	4	9.00	4.830	2	13
Q24	4	9.00	4.690	2	12
Q25	4	1.75	.957	1	3
Q26	4	9.00	2.828	7	13
Q27	4	13.50	3.000	9	15

Kendall's (W) test

Ranks

	Mean Rank
Q13	4.13
Q14	6.75
Q15	11.25
Q16	10.63
Q17	5.00
Q18	4.13
Q19	5.38
Q20	6.75
Q21	9.50
Q22	7.50
Q23	10.63
Q24	10.75
Q25	4.13
Q26	9.88
Q27	13.63

Test Statistics

N	4
Kendall's W[a]	.527
Chi-Square	29.519
df	14
Asymp. Sig.	.009

a. Kendall's Coefficient of Concordance

Data Results computed by SPSS 15

Kendall's coefficient of concordance (W) test on ranking of Q13 to 27 for informal partnering category

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Q13	6	1.33	.516	1	2
Q14	6	6.17	3.125	1	9
Q15	6	9.33	6.121	1	14
Q16	6	10.00	2.757	6	12
Q17	6	2.50	2.345	1	7
Q18	6	5.17	5.492	1	14
Q19	6	3.67	2.582	1	6
Q20	6	4.83	4.622	1	12
Q21	6	6.00	4.050	1	11
Q22	6	7.33	3.386	1	10
Q23	6	8.17	4.708	1	13
Q24	6	10.67	2.503	6	13
Q25	6	2.50	2.345	1	7
Q26	6	5.50	3.886	1	11
Q27	6	14.33	.816	13	15

Kendall's (W)

Ranks

	Mean Rank
Q13	3.33
Q14	7.75
Q15	10.75
Q16	10.92
Q17	4.58
Q18	7.08
Q19	5.75
Q20	6.75
Q21	7.75
Q22	9.17
Q23	9.00
Q24	11.42
Q25	4.58
Q26	6.50
Q27	14.67

Test Statistics

N	6
Kendall's W[a]	.511
Chi-Square	42.916
df	14
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

Data Results computed by SPSS 15

Kendall's coefficient of concordance (W) test on ranking of Q13 to 27 for non-partnering category

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Q13	14	3.21	4.246	1	13
Q14	14	3.71	2.128	1	7
Q15	14	9.29	4.795	1	14
Q16	14	11.07	2.464	7	15
Q17	14	4.64	2.872	1	9
Q18	14	5.93	4.843	1	14
Q19	14	2.93	2.526	1	9
Q20	14	2.93	2.200	1	7
Q21	14	6.64	5.063	1	14
Q22	14	6.43	2.209	2	9
Q23	14	8.43	5.034	1	14
Q24	14	7.43	3.567	1	12
Q25	14	3.29	3.173	1	11
Q26	14	7.00	2.481	2	11
Q27	14	13.14	1.512	10	15

Kendall's (W)

Ranks

	Mean Rank
Q13	4.36
Q14	5.79
Q15	10.71
Q16	12.14
Q17	6.57
Q18	7.21
Q19	5.04
Q20	4.93
Q21	8.32
Q22	8.11
Q23	9.57
Q24	9.04
Q25	5.32
Q26	8.93
Q27	13.96

Test Statistics

N	14
Kendall's W[a]	.434
Chi-Square	85.035
df	14
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

Reply on follow up questions through email

There was only one successful reply to the follow up questions. The respondent is a Contracts Manager in a main contractor. The respondent has 25 years of working experience. According to the respondent, the company had never adopt the formal partnering approach. But they adopted informal partnering with limited number of sub-contractors. Most of the projects were carried out in non-partnering approach.

Two questions were set for the respondent as follows:

1. What are the reasons that make your company did not adopt formal partnering approach in carrying out the project?

2. By comparing Your Company's majority project, Do Your Company have more cooperated working environment when the project is carried out with the company that Your Company work for/with a long time in carrying out Your Company's business?

The rationale in setting the first question is as follows:

The company has experience in informal partnering approach. And the nature of partnering for both formal and informal partnering is the same. Both of them would improve the performance of project through the cooperative working environment. What are the reasons that prohibit the company from adopting formal partnering approach.

The rationale in setting the second question is as follows:

Do the respondent did not receive a cooperative working environment by adopting the informal partnering approach in the past projects.

There was only one reply. It cannot give any conclusion or indication on the common view in the construction industry. However it is a reflection of certain opinions and experience in the construction industry. Furthermore the respondent has a long period of working experience which is about 25 years in the important position which is Contracts manager which is considered as having extensive experience in industry. Therefore the opinions and experience shared by the respondent have value for reference.

The respondent answered by giving two cases. The first case was the relationship between Company which acted as Main Contractor and Developer which acted as Client. And the second case was the relationship between Company which acted as Main Contractor and subcontractor.

For the first case, the respondent answered that 'the imitative is obviously not taken by X' (X refers to the company that the respondent works for). It indicated that the partnering approach would normally be initiated by client which can be developers and corporation. But according to the answer given by the respondent, the respondent has negative impression on the client. The respondent stated also that 'Very often client will focus on the contract sum. They tend to by making use of the contractual terms to put all the risks on contractor's shoulder yet maintaining the contract sum as low as possible.'

It may suggested that the main reason for the respondent did not adopt partnering with client is that the respondent believed that the main contractor and developer could not work together in a cooperative environment. It is because the respondent stated that X would like to have more flexibility in handling the sub-contract administration. The respondent also stated that X adopted informal partnering approach with several sub-contractor with satisfactory result.

For second question, the respondent answered that the X have more cooperated working environment when the project is carried out with the company that X work with a long time in carrying out X's business when comparing X's majority project. The respondent stated the reason that the majority of problems or disputes can usually be resolved

amicably through discussion or negotiation. Although the respondent stated the cooperative environment is experience in informal partnering project, the trust score and the commitment score are 43 and 57 respectively. Both scores are below the mean score which are 51.5 and 67.5 respectively. It indicates that the trust level and commitment level is not necessarily high in a cooperative working environment.

The follow up questions with an experienced practitioner indicate that the relationship between client and main contractor is adversarial. It suggested there is a real difficult to implementation of partnering. The main contractor has a negative impression on the client. Cheung el at. (2003) stated that "Practitioners in the industry had a view that contract provisions are so designed to favour the clients and leaving all the burden on contractors." The main contractor tends to behave adversarial to the client when carrying out the project. It is because the main contractor has impression that the client has imposed about all the risk to on itself. It is suggested that the partnering approach is difficult to implement on such adversarial relationship especially when the partnering intention does not expressed clearly before the tendering stage.