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**The Hong Kong Polytechnic University**  
**Institute of Textiles and Clothing**

**Strategic networking and  
transactional performance: a study  
of the Hong Kong clothing industry**

**By**  
**Lau Mei Mei**

**A thesis**  
**submitted in partial fulfilment of the**  
**requirements for the degree of**  
**Doctor of Philosophy**

**November 2007**

## **CERTIFICATE OF ORIGINALITY**

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\_\_\_\_\_ Lau Mei Mei \_\_\_\_\_ (Name of student)

*To My Family*  
*for Their Loves, Support and*  
*Understanding*

## ABSTRACT

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Transaction cost analysis, relational governance and social capital issues have long drawn considerable attention from marketing scholars. In this research, transaction cost analysis, relational governance and social capital are used to understand buyer-supplier networking relationships within Hong Kong. By considering these theoretical perspectives together, this research focuses on the link between the antecedents of strategic networking, the intensity of collaborative relationships and transaction costs, between Hong Kong clothing manufacturers and their suppliers. The constructs of trust, commitment, reputation, communication, cooperation, risk management, *guanxi*, asset specificity, relationship continuity, size of supplier base and transaction costs are studied. Since the influence of Asian culture on strategic networking has not yet been satisfactorily explored, this research attempts to fill the gap by investigating the ways in which strategic networking between buyers and suppliers reduces transaction costs in the Hong Kong clothing manufacturing industry.

A theoretical framework for networking relationships was integrated from the literature to investigate three research questions:

***RQ 1:** How do the antecedents of strategic networking affect the intensity of collaborative relationships?*

***RQ 2:** How do the antecedents of strategic networking affect transaction costs?*

***RQ 3:** How does the intensity of collaborative relationships affect transaction costs?*

To answer these research questions, a two-stage approach was used, which consisted of theory building and theory testing. Study one used case research to confirm and refine the preliminary theoretical framework that was developed from the literature. Qualitative data were collected from in-depth interviews with senior executives at seven large clothing companies in Hong Kong, in which, constructs such as communication, co-operation and risk management were taken out, while the remaining antecedents of commitment, trust, reputation and *guanxi* were applied in the later stage of this research. Study two used a survey methodology to test the theoretical framework developed in Study one. Data were collected from 168 firms in the Hong Kong clothing industry, and analysed using structural equation modelling techniques to test and confirm the hypotheses that were specified in the model.

The findings have clear implications for the three research questions. The results with regard to the first research question show that asset specificity is positively affected by commitment, relationship continuity is positively affected by trust and reputation, and although the size of the supplier base is negatively affected by trust, it is positively affected by reputation. According to the results with regard to the second research question, two antecedents of strategic networking are significantly associated with transaction costs: trust is negatively associated with transaction costs, whereas reputation is positively associated with transaction costs. The results of the third research question indicate that asset specificity relates positively to transaction costs and relationship continuity relates negatively to transaction costs. In summary, eight of the 19 sub-hypotheses are supported by the empirical findings of this study. Based on these findings, a final confirmed theoretical framework that depicts strategic networking in the Hong Kong textile and clothing industry was developed.

The implications for theory are that strong strategic networking is required, and that the antecedents of commitment, trust, reputation and *guanxi* enhance the development of networking. In addition, transaction-specific assets can safeguard a network relationship, long-term relationships are conducive to effective transactions and managing a small number of suppliers helps to stabilise network relationships. Finally, transaction costs can be lowered due to a combination of the effects of both the antecedents of strategic networking and the intensity of collaborative relationships.

This research has an additional implication: *guanxi*, in contradiction to the literature, has no impact on the intensity of collaborations among network members, nor on the transaction costs of strategic networks in Hong Kong. In general, *guanxi* is an important factor in enhancing and sustaining network relationships within a Chinese context. However, Hong Kong has established a strong political organisation, an education system and a way of life that has been intensely influenced by Western culture. Firms there have been doing business directly with Western firms for many decades, so the attitude of practitioners in Hong Kong in managing networking relationships with their business partners may not be identical to that of practitioners in other Chinese communities in Asia.

This research also demonstrates to practising managers how strategic networks made up of manufacturers and suppliers are adopted and maintained, and in turn, provides guidelines on how to allocate the resources that are necessary to develop a strategic network. In conclusion, this research constitutes an important step towards understanding how strategic networking with capable partners improves the competitiveness of an enterprise.

# **LIST OF RESEARCH OUTPUTS DURING THIS CANDIDATURE**

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## **Refereed journal papers**

Lau, M.M., Moon, K.L., Zhang, Z.M. and To, K.M.C. 2005, 'The antecedents of successful buyer-supplier relationships in strategic networks of the Hong Kong clothing industry', *The Journal of the Textile Institute*, vol. 96, no. 5, pp. 329-338.

Lau, M. M. and Moon, K. L. 2008, 'Adoption of strategic networks: evidence from the Hong Kong clothing industry', *Journal of Business and Industrial Marketing*, vol. 23, no. 5, pp. 342-349.

Moon, K. L. and Lau, M. M. 2008, 'Strategic supply networks: competitive advantage and *guanxi*', *Industrial Marketing Management*, under revision.

Lau, M. M. and Moon, K. L., Zhang, Z.M. and To, K.M.C. 2008, 'The roles of *guanxi*: A study of buyer-supplier relationship' *Journal of Business Research*, to be submitted.

Lau, M. M. and Moon, K. L. 2008, "Intensity of strategic networking and transaction costs: an empirical study of the clothing industry in Hong Kong", *International Journal of Production Economics*, to be submitted.

## **Conference paper**

M.M. Lau, K.L. Moon, Z.M. Zhang, and To, K.M.C. 2004, 'The antecedents of collaborative behaviour in strategic supply chain network', *Proceedings of The Academy of World Business, Marketing & Management Development Conference (AWBMAMD)*, Queensland, Australia, July 13-16, 2004, p. 22.



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## LIST OF ABBREVIATIONS

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ADF	Asymptotically distribution free
Amos	Analysis of Moment Structures
CFA	Confirmatory factor analysis
CFI	Comparative Fit Index
CR	Critical ratio
CRQ	Research question for case research
df	Degrees of freedom
EDI	Electronic data interchange
GLS	Generalised least squares
H	Hypothesis
IOR	Interorganisational relationship
ML	Maximum likelihood
NFI	Normed Fit Index
P	Probability estimate
RMR	Root Mean Square Residual
RQ	Research question
RW	Regression weights
SE	Standard errors
SEM	Structural equation modelling
SMC	Squared multiple correlation
SME	Small and medium enterprise
SPSS	Statistical Package for the Social Science
TCA	Transaction cost analysis
TLI	Tucker Lewis Fit Index
ULS	Unweighted least squares
$\alpha$	Alpha
$\delta$	Thelta (measurement error variances)
$\lambda$	Lambda (regression coefficients)
$\chi^2$	Chi-square



# *Chapter 1 Introduction*

## **1.1 Background to the research**

Asian producers have influenced the world's textile and clothing industries for a long time. In the 1990s, this region experienced substantive growth in production and trade in the textile and clothing industries. Hong Kong, Taiwan, South Korea and China are the Big Four in the textile and clothing trades. They enhanced their production and marketing structures and had a major influence on global markets (Dickerson 1999; Thompson 2001). Among these four, Hong Kong has long been a favourite base of operation for multinational corporations. Indeed, Hong Kong's reputation for its freewheeling way of doing business and its government's non-interventional policies are attractive to investors and buyers of the textile and clothing industries from all over the world (Redding & Baldwin 1991).

Being Asia's major supplier of textiles and clothing, Hong Kong's total export value of clothing products accounted for HK\$212 268 million in 2005. Hong Kong is second only to China in the world, in terms of its export economy (HKTDC 2007). Moreover, Hong Kong is the third-largest supplier of garments and accessories to the United States (accounting for 5.5 percent or US\$4.1 billion of the total imports into the United States); the largest supplier to China (accounting for 44.9 percent or US\$693 million of the total imports to China); and the fifth-largest supplier to the United Kingdom (accounting for 4.9 percent or US\$982 million of the total imports to the United Kingdom) (COMTRADE 2005). Clothing manufacturing also is a major sector, and is the leading earner in terms of domestic exports. It is the largest exporter of trade merchandise, with exports valued at HK\$38.9 billion or 35.6 percent of total domestic exports in 2007 (HKCSD 2007a). Meanwhile, according to the *Census and Statistics Department*, it was the second-largest manufacturing employer in Hong Kong in March 2007 (HKCSD 2007b). Therefore, the clothing industry in Hong Kong exerts a powerful influence on global markets and occupies a prominent position in Hong Kong's domestic economy.

Notwithstanding, Hong Kong's clothing industry went through a cycle of growth and decline (Toyne et al. 1984). In the 1960s, about 50 000 people in Hong Kong were employed in fewer than 1000 firms. Employment in this industry peaked in the 1980s, when approximately 300 000 people worked in more than 10 000 clothing firms. A decade later, the sector shed more than 200 000 jobs and the number of firms fell to fewer than 3000 (Thompson 2001). As a result of labour shortages and rising production costs in Hong Kong, its labour-intensive clothing manufacturing base has been migrating to low-cost countries such as China (HKSAR 2002; Kahn 2004; U.S.I.T.C. 2004). The relocation of production facilities offshore, however, has caused a steady decrease in the number of clothing manufacturers in Hong Kong (Dickerson 1999; HKTDC 2004, 2005). In 2007, employment in the clothing manufacturing industry decreased sharply, now only employing 17 270 workers across 1157 establishments (HKCSD 2007b).

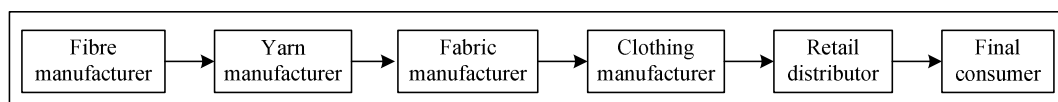
Hong Kong is a sourcing hub for clothing buyers from all over the world. Its clothing industry provides a great diversity of products, ranging from accessories, casual and sportswear, to high-end fashion (Jin 2004). Moreover, clothing companies in Hong Kong are experienced in all aspects of clothing trade management, such as fabric procurement, sales and marketing, quality control, logistical arrangement and clothing design. They also are knowledgeable of national and international trade rules and regulations. In fact, their professionalism and services are attractive to buyers all over the world and are not easily matched by firms in other places (HKTDC 2004).

However, since the end of the 1980s, firms in the Hong Kong clothing industry have faced challenges in the form of factory closures, employment reduction, lack of government support and decline in business performance. In addition, over the last ten years, changes in the business environment within the industry has become fierce, because developed countries have seen a drop in clothing prices, a trend that is likely to remain for some time (Anson 2005). Indeed, sales of clothing at discounted prices in the United States rose from 59.7 percent in 2001 to 64 percent in 2003. The decline in clothing prices has affected all segments of the market: the high, mid- and low ends (HKTDC 2004).

In order to maintain profit margins and support heavy discounts, clothing retailers have reinforced their brand images and shifted their sourcing to low-cost production bases, especially in Asia (HKTDC 2004). The global sourcing practices of retailers have identified certain selection criteria for multinational clothing manufacturers, like high efficiency, better prices, better quality, shorter lead times, more services, stricter adherence to timetables, smaller minimum orders, and the acceptance of as much cost and risk as possible (Barrie 2004; Humphreys, Shiu & Chan 2001). Therefore, as price competition among clothing manufacturers intensifies, they must find new ways to reduce costs. The use of strategic networking in the clothing industry is one path to success. Indeed, clothing firms in Hong Kong have to build networks with their suppliers, in order to create and secure competitive advantages, such as timely delivery of products, market responsiveness, price competitiveness, product quality and product innovativeness (Garvin 1988; Koufteros, Vonderembse & Doll 2002; Li et al. 2006; Rondeau, Vonderembse & Ragu-Nathan 2000; Sullivan & Kang 1999; Tracey, Vonderembse & Lim 1999; Vickery, Calantone & Droge 1999).

Strategic networking is widely used in the local clothing industry. Many foreign importers and retailers require it as a prerequisite for collaboration, since it can ensure that merchandise reaches the store floor at the right time (HKTDC 2004), and is one way of responding to a demanding environment (Anderson & Weitz 1989; Chen & Paulraj 2004; Limerick & Cunningham 1993). Within the textile and clothing industry, there are six parties in the supply pipeline: fibre, yarn, fabric and clothing manufacturers, retail distributors and final consumers, as shown in Figure 1.1 (Redfern & Davey 2003). Traditionally, firms have performed value-added functions, such as research and development, design, and manufacturing (Anderson, Hakansson & Johnason 1994). However, firms now engage in a ‘value-adding partnership’, with interdependent companies collaborating to manage the flow of materials throughout the supply pipeline (Johnston & Lawrence 1988; To & Leung 2001). Within such relationships, firms perform their own specific activities within the supply pipeline, co-ordinate their tasks with network partners, and compete against other integrated firms.

Figure 1.1 Parties in the clothing supply pipeline



Source: adapted from Redfern and Davey (2003, p. 66).

Establishing such a strategic network is especially important in Hong Kong, in view of its declining role as a manufacturing base, and labour-intensive manufacturing processes that have been migrating to low-cost nations like China (HKSAR 2002; U.S.I.T.C. 2004). The ability of Hong Kong clothing manufacturing firms to flexibly manage overseas production activities and develop manufacturing expertise is the key to their earning profits. For example, these firms can relocate their supply sources to China, where fabric suppliers have an effective logistics capability, good problem-solving skills, and capacity management techniques (Gereffi 1999). Moreover, many large companies have established subcontracting arrangements with smaller companies (Humphreys, Shiu & Chan 2001). In fact, since the 1990s, three-quarters of Hong Kong's textile and clothing firms have subcontracted some of their production processes to other firms. This form of arrangement, in addition to close co-operation with suppliers, enhances the flexibility of large companies and their ability to adapt to rapid changes in market demand. Companies now have the ability to alter their capacity levels, deliver quality clothing products in a short lead time, and solve problems on an ongoing basis so as to increase their bargaining position and provide the best price to their buyers. Therefore, the aim of this research is to study Hong Kong clothing companies' adoption of strategic networks with fabric suppliers, in which transaction costs and key antecedents of strategic networking will be identified and analysed.

## **1.2 Research problem and questions**

This research developed and tested a theoretical framework in which strategic networking operates in the textile and clothing industry. This research also critically evaluated whether this network can help textile and clothing industry firms to reduce transaction costs. Hence, the research problem of this study was developed as:

*How does strategic networking between buyers and suppliers reduce transaction costs?*

**Research questions.** In order to identify research questions from the research problem, the literature on strategic networking was reviewed in Chapter 2, and a preliminary theoretical framework and related hypotheses were developed for testing within a field survey. The research questions that linked the constructs in this framework are:

***RQ 1:** How do the antecedents of strategic networking affect the intensity of collaborative relationships?*

***RQ 2:** How do the antecedents of strategic networking affect transaction costs?*

***RQ 3:** How does the intensity of collaborative relationships affect transaction costs?*

In brief, this research investigated the relationships between antecedents of strategic networking, intensity of collaborative relationships, and transaction costs; and made contributions to the knowledge of strategic networks in the textile and clothing industry. Based upon the three research questions, there were four research objectives for this study:

- to identify extensively the constructs of strategic networks, specifically for the Hong Kong clothing industry;
- to investigate critically the interrelations between the research constructs in this study;
- to develop empirically a theoretical framework of buyer-supplier networking relationships in the clothing industry; and
- to provide managerial guidelines to industry members, in order to enhance their competitiveness in the global market.

### **1.3 Justification for this research**

This research was justified on three grounds:

- gaps in academic research in the context of the Asian networking culture;
- rapid adoption of strategic networking in the textile and clothing industry; and
- anticipated benefits for manufacturer-supplier networking practice.

***Gaps in academic research in the context of the Asian networking culture.*** The first justification for this research is gaps in the academic literature. This study explores the major antecedents of strategic networking, intensity of collaborations between network members, and transaction costs in the context of the Asian networking culture. These are important but under-researched areas. In previous research, types of

inter-organisational relationship were explained by means of *institutional economics theory* (Coase 1937; Ouchi 1979; Williamson 1985; Williamson 1991b), *relational contracting theory* (Macneil 1980) and *resource-based theory* (Black & Boal 1994; Mahoney & Pandian 1992; Wernerfelt 1984). However, little empirical research has focused on the broad integrative view of strategic networks, combining theories of transaction cost analysis, relational exchange, and social capital.

Furthermore, researchers have developed models that define the relevant variables that influence the success or failure of strategic networks (Anderson & Weitz 1989; Anderson & Narus 1990; Chen & Paulraj 2004; Dollinger, Golden & Saxton 1997; Fontenot & Wilson 1997; Heide & John 1990; Limerick & Cunnington 1993; Morgan & Hunt 1994; Noordewier, John & Nevin 1990; Selnes 1998; Zaheer, McEvily & Perrone 1998). Although research interests and business practices in strategic networks are growing, there is no comprehensive theory on the linkage with antecedents of strategic networking (such as commitment, trust, reputation, communication, cooperation, risk management and *guanxi*), intensity in collaborative relationships (such as asset specificity, relationship continuity and size of supplier base) and transaction costs. For instance, a small and manageable supplier base is an essential element of a successful supply chain, but there has been little empirical research to test the association between supplier base and its effect on transaction performance (Shin, Collier & Wilson 2000). Therefore, this research proposes to study the impact of antecedents on the pursuit of strategic networks by clothing manufacturing firms in Hong Kong and, in turn, reduce transaction costs.

Moreover, managers are finding ways to exploit collaborative business opportunities to cope with the competitive global market environment. They choose strategic networking, which is the less costly than alternatives like vertical integration and market transaction. Indeed, long-term network relationships are increasingly being adopted by manufacturers and suppliers, and becoming a crucial part of operational strategies. However, little research has been done on relationships between manufacturing firms and their suppliers (Heide & Stump 1995), so this trend toward collaboration has motivated new research in which strategic networks have been recognised in conceptual and empirical studies in the field of management studies (Gulati, Nohria & Zaheer 2000; Jarillo 1988; Macneil 1981; Ring & Van de Ven 1992; Thorelli 1986; Van Alstyne 1997; Williamson 1991b).

Nevertheless, most of the research on strategic networking is based on cases in Western countries (for example, Anderson & Weitz 1992; Heide & John 1990; Wathne & Heide 2004) and pay insufficient attention to network collaborations in Asia. The applicability of research findings on strategic networking generated in the West to Asian countries remains an open question. The complexity of Asian contexts not only poses a challenge to researchers, but also offers an opportunity to improve both empirical understanding and theoretical development of strategic networking (Doney & Cannon 1997). Therefore, it is beneficial to examine strategic networks in Hong Kong, and the resulting insights may contribute to the development of a broader theory of strategic networks. For example, Chang and Harwood (2001) confirmed that trust and commitment are important characteristics of a strategic network in Hong Kong's clothing industry. Other empirical studies have found that communication (Anderson & Narus 1990) and reputation (Anderson & Weitz 1989) are the antecedents of strategic networking. However, whether these also are critical antecedents of strategic networking specific to Hong Kong, and whether the variables of the intensity of collaborative relationships and transaction costs are applicable to Hong Kong have not been validated. This research will advance knowledge in this direction.

Hong Kong, as a Chinese city with a colonial heritage, has a business culture that combines Eastern and Western characteristics (Enright, Scott & Dodwell 1997). It provides a good context for an exploratory investigation of strategic networks, using measures developed in Western business cultures and the Chinese cultural factor – *guanxi* – which has not yet been explored widely. In addition, the antecedents of strategic networking and the intensity of collaborative relationships may be influenced by contextual factors, such as the type of industry (Li et al. 2006). The clothing industry possesses certain specific characteristics that may affect the results of networking research. Therefore, it is worthwhile studying strategic networks in the clothing industry in Hong Kong. Furthermore, antecedents of strategic networking have not been examined simultaneously with the intensity of collaborative relationships. This research develops a comprehensive theoretical framework for a holistic picture of strategic networks, which provides a foundation for the study of strategic networking in Hong Kong's clothing manufacturing industry.

***Rapid adoption of strategic networking in the textile and clothing industry.*** The second justification was the adoption of strategic networking in the textile and clothing industry (Wathne & Heide 2004). The globalisation supply is forcing organisations to be more aggressive in creating and sustaining a competitive advantage. Facing fierce competition in the global markets, manufacturing firms often attempt to weaken the bargaining power of suppliers or customers to control profits, so that they can compete with other manufacturers (Johnston & Lawrence 1988). Strategic networking is one of the most frequently discussed partnering initiatives for improving efficiency along multi-firm supply pipelines and ensuring long-term network relationships. This networking approach is widely considered to be a strategic option for businesses of all kinds, particularly in response to a turbulent environment (Limerick & Cunnington 1993). Therefore, the growth of collaborative behaviours in strategic networks in competitive markets is a crucial phenomenon in the fields of management.

Indeed, the theory of strategic networking is a growing concern in the clothing industry and can provide one way for practitioners to succeed. In this industry, companies use strategic networks to strengthen their global position. Companies that are engaged in supplying materials, manufacturing products and distributing finished goods are part of a large supply chain in which integrative and co-operative arrangements among buyers and sellers, sub-contractors and competitors are common practice (Miles & Snow 1986).

Moreover, Hong Kong is developing into a business networking centre for global clothing manufacturing (Jin 2004). In fact, many clothing manufacturing firms in Hong Kong already have developed a strategic mechanism for improving competitiveness and reducing resource disadvantages through co-operation and exchange of favours with parties outside their own organisations. Although some large-scale Hong Kong clothing manufacturing firms have operated strategic networks successfully – such as Li and Fung Limited, Luen Thai International Group Limited, and TAL Apparel Limited, few empirical studies have been conducted in this area. Since there has been a rapid proliferation of networks and other forms of inter-firm relationships in recent years, ignoring embedded strategic networks might result in an incomplete understanding of firm behaviour (Gulati, Nohria & Zaheer 2000). Therefore, this research studies the manufacturer-supplier networking relationships in the Hong Kong clothing industry.



***Anticipated benefits for manufacturer-supplier networking practice.*** The final justification for this research was its anticipated potential benefits to practitioners. For example, the implications of this research could contribute to clothing firms and related businesses – like yarn suppliers, fabric suppliers, testing laboratories, retailers and wholesalers (Sub-section 7.5.2). These firms can benefit from this research, because the information will guide strategic formation and implementation for firms that are interested in taking advantage of networking relationship practices. This research also will show practising managers how strategic networks of buyers and suppliers are adopted and maintained, and, in turn, it will guide them on how to allocate resources in order to develop a strategic network. Therefore, the findings of this research provide practical implications that could be valuable to decision makers.

## **1.4 Methodology**

This section describes the methodologies used in data collection and analysis for the research, with full details provided in Chapter 3 and 5. This research involves both theory building and theory testing; consequently, both qualitative and quantitative methodologies were used, involving Study One – case research, and Study Two – survey research.

***Study one: case research.*** The first stage of data collection used an exploratory case research method. Such approach involves a series of in-depth interviews to test a body of knowledge (Yin 1994). In this study, Hong Kong's clothing manufacturing industry was chosen. Research on the impact of strategic networking in the clothing manufacturing industry is limited, and the variables that could be affected by networking also are unclear. Therefore, exploratory research was required to clarify related elements and identify important issues for further research.

The qualitative approach of case research was adopted in the first stage of this study, in preference to other methodologies, like convergent interviewing and focus groups, because there already was enough prior theory about the practice of strategic networking; and the theory already had been constructed at this stage. Furthermore, Smith, Carroll and Ashford (1995) have suggested that the case research method is ideal for studying co-operative relationships. To do this here, seven clothing companies were selected for analysis. Content analysis of the interview transcripts supports the initial

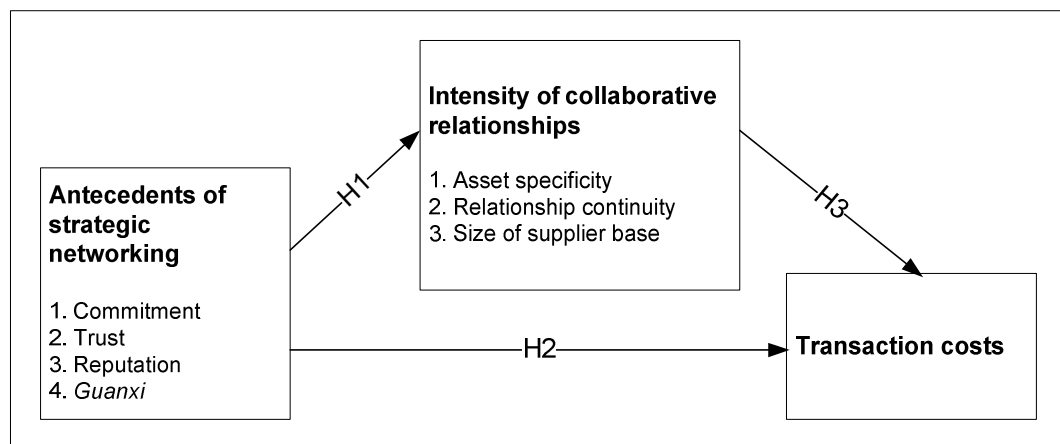
theoretical framework of manufacturer-supplier relationships, a framework that then was used in the second stage of data collection.

**Study two: survey.** The second stage used a quantitative survey. The focus of this stage was to collect additional quantitative data from clothing manufacturing firms to examine the relationships between the three research constructs: antecedents of strategic networking, intensity of collaborative relationships, and transaction costs. The sample for this stage of research consisted of 168 clothing manufacturers who had direct contact with their fabric suppliers. Systematic sampling was used. A more complete description of this method is illustrated in Chapter 5. Two types of data analysis were performed on the survey data: descriptive and inferential. Descriptive analysis was executed, using SPSS version 12, for the transformation of raw data into a format that provided the profiles for each research variable (Sekaran 2003). The second part of the analysis – inferential analysis – was performed to test a structural equation model (SEM), using Amos 5.0 (Arbuckle 2003). Details of these analyses are provided in Chapter 6.

## 1.5 Results and contributions

This section describes the findings of the survey research and their contributions. The theoretical framework (Figure 1.2) incorporated variables of strategic networking between manufacturers and suppliers in the clothing industry, and was first confirmed with information from the seven interviews described in Chapter 3.

Figure 1.2 Comprehensive theoretical framework for collaborative strategic networks



Source: developed for this research (from Figure 4.2).

Then, the hypotheses between the variables of the framework were developed in Chapter 4 and tested in a field survey in Chapter 5. Results of survey data found that 8 of the 19 hypothesised relationships were supported statistically. The survey results of these hypotheses are summarised in Chapter 6 and are shown in Table 1.1.

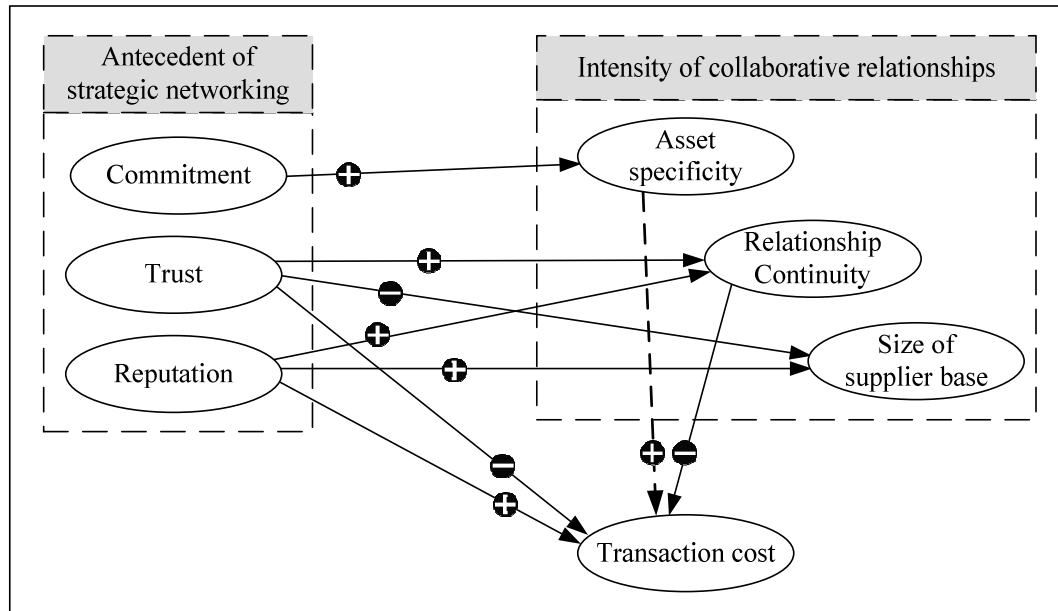
Table 1.1 Summary of survey findings for research hypotheses

No.	Research questions/hypothesis	Supported or not supported
<b>RQ 1: How do the antecedents of strategic networking affect the intensity of collaborative relationships?</b>		
H1.1	Commitment is positively associated with asset specificity.	<b>Supported</b>
H1.2	Trust is positively associated with asset specificity.	Not supported
H1.3	Reputation is positively associated with asset specificity.	Not supported
H1.4	<i>Guanxi</i> is positively associated with asset specificity.	Not supported
H1.5	Commitment is positively associated with relationship continuity.	Not supported
H1.6	Trust is positively associated with relationship continuity.	<b>Supported</b>
H1.7	Reputation is positively associated with relationship continuity.	<b>Supported</b>
H1.8	<i>Guanxi</i> is positively associated with relationship continuity.	Not supported
H1.9	Commitment is negatively associated with size of supplier base.	Not supported
H1.10	Trust is negatively associated with size of supplier base.	<b>Supported</b>
H1.11	Reputation is positively associated with size of supplier base.	<b>Supported</b>
H1.12	<i>Guanxi</i> is negatively associated with size of supplier base.	Not supported
<b>RQ 2: How do the antecedents of strategic networking affect transaction costs?</b>		
H2.1	Commitment is negatively associated with transaction costs.	Not supported
H2.2	Trust is negatively associated with transaction costs.	<b>Supported</b>
H2.3	Reputation is positively associated with transaction costs.	<b>Supported</b>
H2.4	<i>Guanxi</i> is negatively associated with transaction costs.	Not supported
<b>RQ 3: How does the intensity of collaborative relationships affect transaction costs?</b>		
H3.1	Asset specificity is negatively associated with transaction costs.	Not supported
H3.2	Relationship continuity is negatively associated with transaction costs.	<b>Supported</b>
H3.3	Size of supplier base is positively associated with transaction costs.	Not supported

Source: developed for this research (from Table 6.17).

In turn, the revised framework incorporated the findings of these hypotheses and is presented in Chapter 6. Figure 1.3 shows how this thesis solves the research problem.

Figure 1.3 Final confirmed theoretical framework



Source: developed for this research (from Figure 6.3).

This research provides an in-depth understanding of the Hong Kong clothing industry in its adoption of strategic networks to minimise transaction costs. This study makes five major contributions to the knowledge of strategic networking, by:

- integrating theories – transaction cost analysis, relational exchange, and social capital – on strategic networking;
- testing constructs of the model in an under-researched industry with distinctive characteristics – the clothing industry – rather than generalising over several industries;
- providing empirical support for previous hypotheses on strategic networks;
- extending the literature on strategic networks from the West to Asian countries; and
- providing guidelines or references for industry members who are seeking to develop a strategic network organisation, so as to enhance their competitiveness in the global arena.

## 1.6 Delimitations of scope to Hong Kong

The main delimitation of this research is that its scope was confined to the Hong Kong clothing manufacturing industry and Section 1.3 justified this delimitation. Although the clothing manufacturing industry operates around the world, the industry's economic, cultural and behavioural factors are different in each country. In other words, the way in which some firms develop strategies and the extent to which businesses realise the benefits of strategic networking may vary. Therefore, this pioneering research had to control the national boundary of the research setting. Generalisation of the research findings beyond Hong Kong should be done with caution, because of national variations in cultural behaviour. However, the findings may apply to other countries whose networking practices are of similar importance, especially in Asia, as discussed in Sub-section 7.5.2.

## 1.7 Definitions of terms

Definitions adopted by practitioners and researchers in the clothing manufacturing industry and strategic networking may vary. Therefore, important concepts are defined in this section, in alphabetical order. Justifications of terms and details are provided in Chapter 2, with relevant sub-sections noted.

***Asset specificity.*** Asset specificity refers to the level of the transferability of the investment that supports a given transaction without sacrificing its productive value (Williamson 1985; Young-Ybarra & Wiersema 1999). This definition is developed from the literature and justified in Sub-section 2.4.2.

***Clothing manufacturing firm.*** A clothing manufacturing firm produces garments and other items of clothing (Conway 1997; Rouette, Fischer-Bobsien & Carl-Heinz 2001). The *Hong Kong Industry Department* (2000) defines a Hong Kong manufacturing firm as an organisation that transforms raw material (fabric), by machine or by hand, into products (garments). Such a firm handles either part or all of its manufacturing processes locally. This definition is adopted from the literature and government, and is described in Sub-section 5.5.2.

***Commitment.*** Commitment is a partner's determination to invest maximum effort in carrying out an implicit or explicit pledge, such as the development of a new product or service program to ensure the continuity and stability of the network relationship (Dwyer, Schurr & Oh 1987; Fontenot & Wilson 1997; Monczka et al. 1998; Morgan & Hunt 1994; Wilson 1995). This definition is developed from the literature and justified in Sub-section 2.4.1.

***Communication.*** Communication is the participation of human activities and a qualified information exchange that links people together (Chen & Paulraj 2004; Duncan & Moriarty 1998). This definition is developed from the literature and justified in Sub-section 2.4.1.

***Cooperation.*** Cooperation refers to voluntarily and complementary long-term coordinated activities striving for mutual benefit and success (Anderson & Narus 1990; Barratt & Oliveira 2001; Heide & John 1990; Jarillo 1988; Morgan & Hunt 1994; Powell 1990; Van Alstyne 1997). This definition is developed from the literature and justified in Sub-section 2.4.1.

***Guanxi.*** *Guanxi* is defined as a special relationship or friendship, implying the continued and reciprocal exchange of favours (Bian 1994; Davies et al. 1995; Pye 1992; Tsang 1998). This definition is developed from the literature and justified in Sub-section 2.4.1.

***Relationship continuity.*** Relationship continuity is the perceived bilateral expectation of future interactions (Heide & John 1990). This definition is developed from the literature and justified in Sub-section 2.4.2.

***Reputation.*** Reputation refers to the perception of a firm's management integrity, financial soundness and network identity (Anderson, Hakansson & Johnason 1994; Dollinger, Golden & Saxton 1997). This definition is developed from the literature and justified in Sub-section 2.4.1.

**Risk management.** Risk management is comprised of the consistent and continuous processes that strategically identify, analyse, respond to and monitor business risks or opportunities within the internal and external environment that are linked to the achievement of strategic objectives (Abrams et al. 2007; Beasley, Frigo & Litman 2007; Nelson & Ambrosini 2007; Shaw. 2005). This definition is developed from the literature and justified in Sub-section 2.4.1.

**Size of supplier base.** Size of supplier base refers to the reduction of supplier size that increases the efficiency of a buying firm to perform a particular activity and to the establishment of longer term supplier relationships (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005). This definition is developed from the literature and justified in Sub-section 2.4.2.

**Strategic network.** A strategic network is the collaboration of two or more organisations in long-term, purposeful arrangements across business functions (Jarillo 1993; Thorelli 1986), in which parties engage in cooperative behaviours and the coordination of activities in such areas as production, purchasing, research and development, and marketing and distribution (Fontenot & Wilson 1997). This definition is developed from the literature and justified in Section 2.2.

**Transaction costs.** Transaction costs are defined as the costs of running the contractual relationship for current purposes (Macneil 1981). This definition is developed from the literature and justified in Sub-section 2.4.3.

**Trust.** Trust can be defined in a way that emphasises reliable obligations, predictable actions, and fair negotiations in exchanges, even if the possibility for opportunism is present (Zaheer, McEvily & Perrone 1998). This definition is developed from the literature and justified in Sub-section 2.4.1.

## 1.8 Outline of the thesis

This thesis has seven chapters and the outline of the thesis is shown in Figure 1.4. Chapter 1 provides an overview of the thesis and presents the research problem, rationale and methodology; it also briefly describes the clothing industry in Hong Kong. Chapter 2 reviews the parent theories of strategic networking, including transaction cost analysis, relational exchange, and social capital theory (Section 2.3). Within this chapter,

Section 2.4 describes the focus theory that formulates the theoretical framework, including the antecedents of strategic networking (Sub-section 2.4.1), the intensity of collaborative relationships (Sub-section 2.4.2) and transaction costs (Sub-section 2.4.3), and identifies important elements to be considered in this research. From this base, a preliminary theoretical framework is developed (Chapter 2).

Chapter 3 covers the first stage of data collection, utilizing case research methodology. This chapter justifies the choice of qualitative research methodology, discusses the validity and reliability of data collection, describes the procedure for case research, and explains how the process was carried out. Finally, this chapter reports the case research results. From the findings, the preliminary theoretical framework is confirmed and is used as a foundation for developing linkages among the elements in Chapter 4. It concludes by reiterating the research questions and hypotheses that emerge from this chapter.

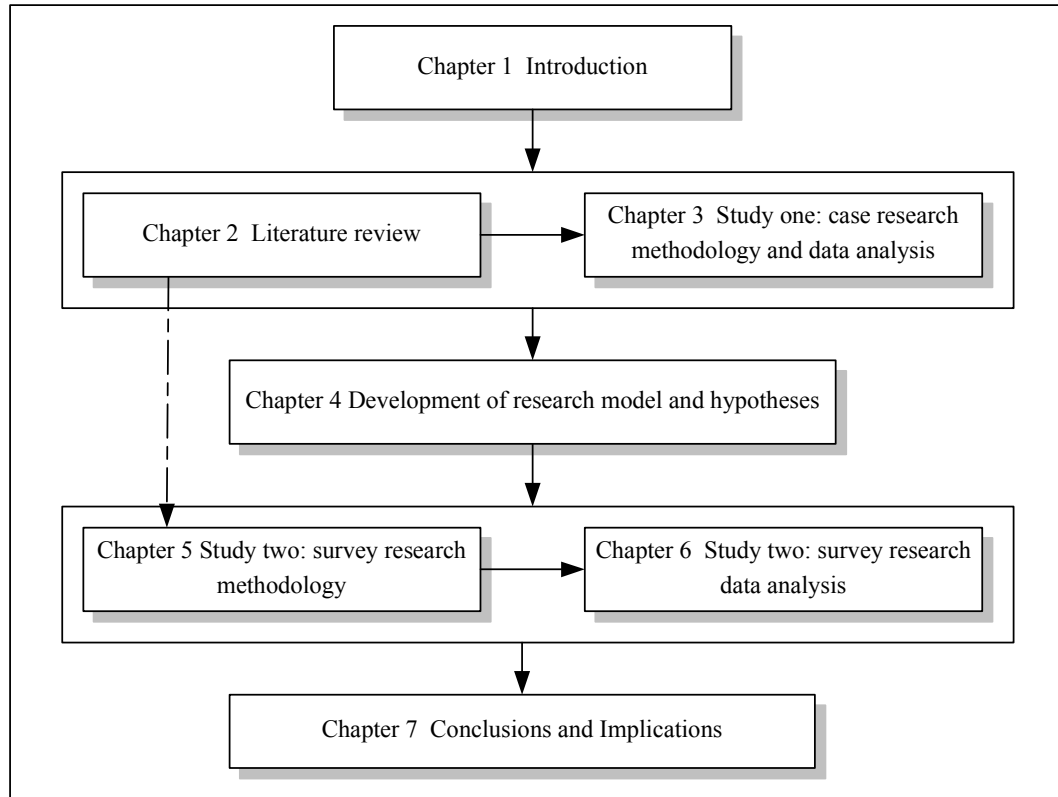
Chapter 5 describes the second stage of data collection, which consists of a field survey. It provides the rationale behind the methodology and discusses the steps taken to collect and process the survey data, in addition to the ethical considerations of this research. Chapter 6 analyses data from the field survey, examines the findings, and then summarises the results of the testing of research hypotheses.

Finally, Chapter 7 provides conclusions to each hypothesis developed in Chapter 4. Conclusions then are drawn about the research problem and contributions to both theory and practice. Lastly, the research limitations and implications for further research are discussed.

This thesis follows the style and referencing standards of the *Style Manual for Authors, Editors and Printers* (Australian Government Publishing Service (AGPS) 2002) as summarised in Perry (1998, 2002). Spelling follows Microsoft Word's Tools/Language/English (United Kingdom) format.



Figure 1.4 Outline of thesis



Note: — - — - means that material from Chapter 2 is the basis for survey research in Chapter 5  
 Source: developed for this research.

## 1.9 Chapter conclusion

This chapter briefly outlines the research reported in this thesis. First, a background of the industry was described, followed by a short overview of the research topic, leading to an overview of the research problem and issues that are to be examined. Then, the research was justified, the methodology briefly described, and the results and contributions outlined. Finally, the delimitations of scope were given, definitions of terms were presented, and the thesis was outlined. Upon this foundation, this chapter can proceed to a comprehensive literature review in the next chapter.

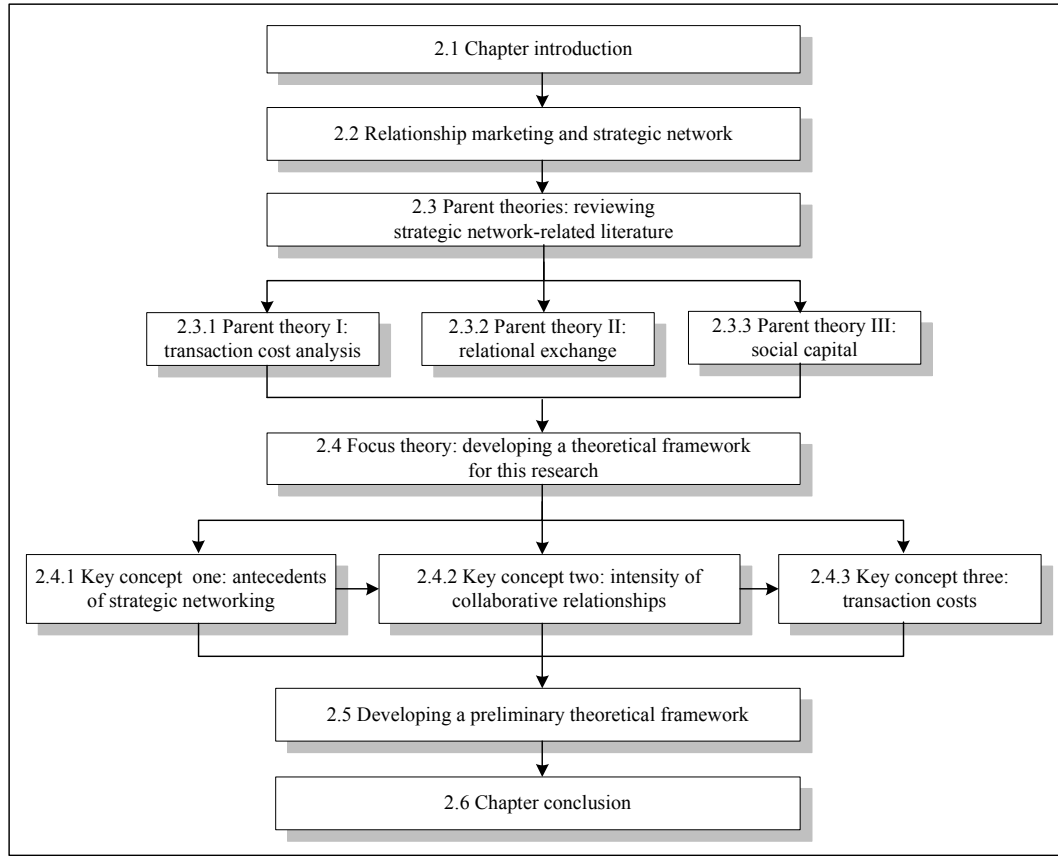
## *Chapter 2 Literature review*

### **2.1 Chapter introduction**

The previous chapter provided the reader with the context of this research, in which the Hong Kong clothing industry was chosen because the influence Asia has on the clothing industry is under-researched. In turn, this chapter aims to review the literature concerning the parent theories related to strategic networking and focus theories needed for developing the theoretical framework.

This chapter is divided into seven sections, as shown in Figure 2.1. Section 2.1 begins by introducing the flow of this chapter. Section 2.2 discusses the context of the research, which are relationship marketing and strategic network. Section 2.3 reviews parent theories from the existing literature related to transaction cost analysis, relational exchange and social capital. Section 2.4 presents *focus theory* for developing the theoretical framework for this research. Within this section, Sub-section 2.4.1 illustrates the antecedents of strategic networking in enhancing and sustaining network relationships in both the West and Asia. Sub-section 2.4.2 describes the intensity of collaborative relationships. Having established a connection between these antecedents and the pursuit of strategic networks, Sub-section 2.4.3 reveals the transaction costs involved in a strategic supply network. Section 2.5 presents an established preliminary theoretical framework after a review of extant literature. Section 2.6 summarises the chapter.

Figure 2.1 Outline of Chapter 2, with section numbers and interrelationships



Source: developed for this research.

## 2.2 Relationship marketing and strategic network

The activities of buying and selling between firms are relationship oriented, as there is a direct contact between the buyers and suppliers, which creates a relationship between them if both parties are involved in this way of doing business. This kind of exchange relationship can be considered as *relationship marketing*, a concept which initially was introduced by Berry and Parasuraman (1993).

Indeed, transaction cost analysis sets the boundaries for relationship marketing, by focusing its attention on the exchange relationships that exist between buyers and suppliers (Ambler 1994; Heide 1994). Marketing scholars describe exchange relationships as a continuum, with discrete exchanges and relational exchanges representing the polar extremes (Gundlach & Murphy 1993). Transaction marketing suggests a single and short-term exchange with a distinct beginning and ending (Gundlach & Murphy 1993), emphasised by theories like *transaction cost analysis*. Conversely, relationship marketing advocates long-term repetitive interactions with a

relational emphasis (Gundlach & Murphy 1993), highlighted by theories like *relational exchange* and *social capital*, which emphasise the role of trust and commitment in the networking governance process (Lee & Cavusgil 2006). These two marketing approaches can complement each other in various industries and various types of transaction (Coviello & Brodie 1998).

A *strategic network*, which involves continued relationships between exchange partners, is selected as the context, because it is the most appropriate form of governance involving repetitive exchange relationships. There are many terms for a strategic network (Anderson & Weitz 1989; Dyer 1996a; Gulati, Nohria & Zaheer 2000; Jarillo 1988; Thorelli 1986) in the literature, including *strategic alliances* (Dyer 1996a; Fontenot & Wilson 1997), *hybrid governance* (Dyer 1996a; Williamson 1991b), *quasi-integrated distribution channels* (Anderson & Weitz 1992) and *contractual relations* or *relational exchange* (Dwyer, Schurr & Oh 1987; Macneil 1981). In this research, the original term – strategic network – is used, because the term has been used widely and is relatively neutral (Van Alstyne 1997).

Several scholars describe collaborative relationships among parties of strategic networks. First, Thorelli (1986, p. 37) describes *networks* as something between markets and hierarchies, and explained networks as two or more organisations involved in a long-term relationship. Anderson and Weitz (1989) further this description by explaining strategic network as the long-term relationships which facilitate the development of strategic advantages. Jarillo (1993, 1988) provides a more detailed elaboration of the TCA view of strategic networks. He analysed strategic networks as “long term, purposeful arrangements among distinct but related for-profit organisations that allow those firms (in them) to gain or sustain competitive advantages *vis-à-vis* their competitors outside the network, by optimising activity costs and minimising co-ordination costs” (Jarillo 1993, p. 149). Ragnar (2003) gives a more detailed description related to the coordinated activities of strategic networks. Each organisation makes an intensive relational exchange, so a network is a type of collaboration, whereby firms dedicate substantial investments in order to develop long-term collaborative efforts and common orientations toward individual and mutual goals. In such a pursuit, under this relational exchange, firms work together to exchange ideas, knowledge and/or technology, but still maintain autonomy in other organisational plans (Fontenot & Wilson 1997).

All definitions in previous networking literature emphasise the long-term orientations between networked partners. The definition of a strategic network in this study encompasses these definitions: *A strategic network is the collaboration of two or more organisations in long-term, purposeful arrangements across business functions, in which parties engage in cooperative behaviours and coordinating activities in such areas as production, purchasing, research and development, and marketing and distribution* (Fontenot & Wilson 1997; Jarillo 1993; Thorelli 1986). In order to set up a long-term network with coordinated activities, firms should ensure that it is economically viable; and that it efficiently coordinates the business system to develop and enhance strategic benefits and goals, so as to sustain competitive advantages (Anderson & Weitz 1989; Fontenot & Wilson 1997; Ragnar 2003). Additionally, overall success does not depend on individual success, but depends rather on the ability of each firm to manage its relationship with its partners and pursue common goals within the network. However, a manufacturer cannot benefit from a long-term relationship, unless each network partner is convinced that the relationship is likely to last (Anderson & Weitz 1989). Therefore, the entire strategic network should be considered one competitive unit (Fawcett & Clinton 1996), with each partner contributing within a set boundary and recognising potential problems.

Moreover, strategic networking is chosen for this research because networking approach is widely considered to be a strategic option for businesses of all kinds of transaction, particularly in response to a changing environment (Limerick & Cunnington 1993). There frequently are integrative and co-operative arrangements between buyers and suppliers in the industry (Miles & Snow 1986). Indeed, individual firms can gain from strategic networking; for example, opportunities to pursue their particular competencies of technical specialisation and market responsiveness (Miles & Snow 1986). Consequently, a successful strategic network is a viable and advantageous means of achieving the benefits similar to those of vertical integration. However, each network partner must complement rather than compete with all others, in order to handle complex situations in an efficient way – especially when competition becomes more global.

## 2.3 Parent theories: reviewing strategic network-related literature

In addition to relationship marketing and strategic network as the exchange context of this research, three parent theories (Perry 1998, 2002) were applied and are discussed in this section. First, *transaction cost analysis* (TCA) of *interorganisational relationships* (IOR) in managing interfirm exchanges, including vertical integration, and market and strategic networks, were discussed. In the context of interfirm exchange relationships, scholars like Williamson (1985, 1991) advocate, TCA which focuses on the choice of governance mechanism with which to minimise transaction costs. Then, relational exchange, which emphasises social interactions between exchange partners in the long run (Lado, Dant & Tekleab 2008), is an extension of the TCA theory, and is advocated by MacNeil (1980, 1981) and Uzzi (1997). Finally, social capital focuses on social norms of reciprocity, and the rules and expectations among groups of individuals (Batt 2008). These theories are used to understand strategic networking between buyers and suppliers, and their common goal is to minimise transaction costs.

### 2.3.1 Parent theory I: transaction cost analysis

Prior research on make-or-buy decisions has been affected by transaction cost analysis (TCA) which emphasises the efficiency consequences of firm governance choices (Heide & John 1992; Rindfleisch & Heide 1997; Walker 1994). The unit of analysis is single exchange transactions involving transaction-related costs. In other words, TCA considers both production and transaction costs while making governance decisions. Therefore, the main objective of TCA is to choose an optimal governance mechanism that minimises transaction costs (Williamson 1975, 1985). In this research, five constructs of interest to TCA include commitment, risk management, asset specificity, transaction costs, and size of supplier base.

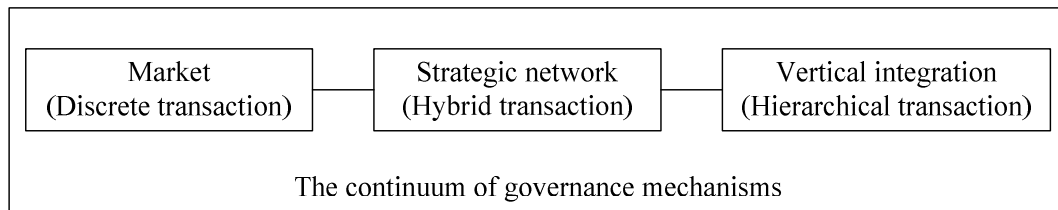
According to TCA, suppliers tend to behave opportunistically, prompting the buyer to adopt mechanisms by which to avoid such behaviour. Investments in specific assets from suppliers would be a preferable choice to avoid such opportunism (Lado, Dant & Tekleab 2008). However, exchange difficulties are associated with asset specificity and high transaction costs under the conditions of environmental uncertainty and opportunism. This risky situation provides economic incentives for hierarchical governance structures for which firms have vertically integrated their production

activities. Discrete transactions are favoured when contracts are explicitly written and enforced, and the transaction costs are low. *Hybrid transactions*, an intermediate form between hierarchical and discrete transactions, make sense as a governance choice when transaction costs are optimal, to allow hierarchical control and market-based exchanges (Gulati, Nohria & Zaheer 2000). Also, TCA suggests that collaborative behaviour can be destroyed by opportunistic behaviour, so firms must choose a governance mechanism to safeguard their transaction-specific investments and to ensure the continuance of the relationship (Heide & John 1990); hence, hybrid governance is a sensible choice, as is discussed below.

### Transaction costs in different modes of interorganisational relationship

In general, many types of interorganisational relationship, ranging from discrete transactions, repeated transactions, long-term relationships, buyer-seller partnerships, strategic alliances, and network and vertical integration received considerable attention during the 1990s (Jonsson & Zineldin 2003; Webster 1992). Transaction cost analysis advocates the comparative properties of governance mechanisms for structuring exchange relationships (Heide & John 1992), and the most generic forms of interorganisational relationships are markets, strategic networks, and vertical integration. These three governance structures are depicted in Figure 2.2.

Figure 2.2 Alternative governance structures



Source: adapted from Dwyer, Schurr and Oh (1987); Powell (1990), Webster (1992).

First, TCA focuses on choosing the most efficient mode of governance mechanism or organisational relationships, so as to lower transaction costs. When the external price is lower than the internal cost, and the transaction cost is selectively low, choosing a strategic network is a sensible choice (Jarillo 1988). Indeed, collaboration of firms dominates when collective gains within a network exceed governance costs (Heide 1994). In addition, greater efficiency in co-operating between two firms can make both

firms more competitive, increase their market share, and ultimately improve profits, turning the situation into a non-zero-sum game (Jarillo 1993). For example, transaction costs are found to be lower within strategic networks. In their study of the Hong Kong clothing industry, Chang and Harwood (2001) found that firms perform better when they shift orders within network partners than outside market suppliers. Therefore, strategically networking with suppliers is a sensible choice for lowering transaction costs.

In contrast, the costs of using a price mechanism in short-term relationships, with a large number of suppliers can outweigh the transaction costs of performing the tasks by manufacturers themselves via discrete transactions. However, the failure of the market is caused by high transaction costs when negotiations over price cannot be reconciled or when a negotiated agreement cannot be enforced (Casson 1987), which, in turn, leads to inefficient market transactions (Heide 1994; Williamson 1975). Using TCA as an explanation, if adaptation, performance evaluation and safeguarding costs are absent or low, firms will favour market governance. In market transactions, business partners will search for the most economical supplier (Rindfleisch & Heide 1997), based upon a price mechanism (Heide 1994). Furthermore, firms will favour vertical integration, if transaction costs exceed production costs (Rindfleisch & Heide 1997). Vertical integration can be used to reduce transaction costs, because it is assumed *a priori* to have inherent safeguarding, adaptation and evaluation capabilities (Heide 1994).

Similarly, transaction-specific investments are greater for exchanges within vertical integration than across market transactions, and transaction costs of both vertical integration and market transaction are greater than in a strategic network (Chen & Paulraj 2004). Therefore, a strategic network is the most efficient form of governance mechanism, and it is the focus of this research. Table 2.1 demonstrates the transaction costs in different modes of organisational relationship, as developed by Jarillo (1993).

Table 2.1 Transaction costs in different modes of organisational relationship

Types of interorganisational relationship	Situation of transaction costs
Vertical integration	EP>IC
Vertical integration, process inefficiency can be absorbed	EP<IC, TC is generally high
Market relationship with lots of competition	EP<IC, TC is generally low
Strategic network	EP<IC, TC is selectively low
Remarks: EP: External price; IC: Internal cost; TC: Transaction costs	

Source: developed by Jarillo (1993).



### **Vertical integration as an interorganisational relationship**

The first form of interorganisational relationship, *vertical integration*, is the kind of *hierarchical transaction* of the governance structure posited by Williamson (1975, 1981, 1991) and MacNeil (1981). Vertically-integrated firms focus on the decision of a manufacturing firm to backward integrate into the supply of materials, or to forward integrate into distribution and sales (Rindfleisch & Heide 1997). This transaction is long-term in nature, and formalised with explicit written agreements. When there are transactions between suppliers and customers, transaction costs, which include writing contracts, business exchanges and administration, are added to a supplier's external price. Therefore, even if it were theoretically cheaper to subcontract certain activities, firms would rather play it safe and integrate these activities internally (Jarillo 1993).

Essentially, firms employ vertical integration, because managers wish to reduce dependency on outside suppliers. Firms lose power when they increase their dependency on outside suppliers (Perry 1989). Furthermore, firms that integrate vertically can govern their internal exchanges, allowing them to exert the greatest control over production quality and timing (Burns & Bryant 2002). Firms that integrate vertically also may control opportunism, by using authority over direct behaviours and improve access to information to facilitate performance audits (Anderson & Weitz 1986). Therefore, even if the internal costs of production are greater than the external purchasing price, firms integrate vertically due to the presence of transaction costs (Jarillo 1993). Nevertheless, administrative costs, like administrative overhead, exist related to vertical integration, and they decrease efficiency, in terms of company setup and maintenance (Anderson & Weitz 1986). Therefore, unless the benefits of vertical integration outweigh the administrative costs, firms may choose other kinds of organisational form, like strategic networks.

Although more effective co-ordination can be achieved through vertically-integrated corporate channels, this governance mode may be costly and inflexible (Anderson & Weitz 1992). The strategic problems associated with vertical integration are loss of efficiency; loss of flexibility, that is, greater investments in fixed costs; and loss of learning opportunities, that is, reduced outside contracts and sourcing of innovative ideas. Instead, it is assumed that small firms are the best initiators of innovation (Jarillo

1993) and that close relationships with these firms are a source of innovation (Von Hippel 1986). If all activities are conducted within a vertically-integrated organisation, firms lose the opportunity to develop innovative ideas or access to information through subcontractors or partners. In this regard, firms may consider other types of exchange relationship.

### **Market as an interorganisational relationship**

At the other extreme, of vertical integration, as shown, in Figure 2.2 is market, which can be characterised as discrete transactions (Williamson 1975, 1985, 1991; MacNeil 1981). A *discrete transaction* is the most minimal form of relationship. Discrete transactions ‘start sharply, are short-lived, and end sharply’ (MacNeil 1981, p. 1027). There is no anticipated future interaction between buyer and supplier. Such relationships between trading partners under discrete transactions are relatively short-term, because discrete transactions involve bargaining mechanisms between independent buyers and suppliers designed to facilitate an economically-efficient transaction (Ring & Van de Ven 1992). That is, each firm ties its incentives to performance (Heide 1994).

Furthermore, a discrete transaction is a kind of ‘spot market purchase’, in which ‘price and quantity must be precisely defined, along with the specific product’ (MacNeil 1981, p. 1028). It involves independent transactions, wherein the price established by the market is the sole determinant of the volume of exchange. Buyers and sellers compete against each other, as they each attempt to achieve the best economic position (Webster 1992). These discrete transactional exchanges separate transactions from firms, in which relational elements are excluded, so they are characterised by limited communications and narrow content (Macneil 1980). This clearly terminating transaction implies that seller performance and buyer payment are final, such as in the form of a one-time purchase. In other words, a discrete transaction refers to an arm’s-length relationship, in which neither party is especially concerned with the well-being of the other (Burt, Dobler & Starling 2003). Thereby, profit maximisation is the objective of an exchange relationship, and loyalty does not exist (Webster 1992).

Practically, there are relational activities between buyers and sellers, so that the pure discrete transactions described by TCA are rare (Dwyer, Schurr & Oh 1987; Webster 1992; Williamson 1985; Zaheer & Venkatraman 1995). All transactions, even the most

discrete ones, take place in the relational context, with some kind of social setting, and create relationships between the parties (Macneil 1981). Therefore, assuming a lack of relationship between parties is too idealistic (Macneil 1980; Macneil 1981). Market governance using classical contract law is only an 'ideal transaction' in law and economics. This implies that there is always a relational exchange in a transaction (Williamson 1991b).

On the other hand, discrete exchange is only used as the starting point in theoretical analysis. Between the two transaction extremes, there are (1) an increase in interaction, (2) the involvement of multiple parties, (3) a contractual agreement, (4) implicit and explicit trust, (5) communication between and the involvement of buyer and seller, (6) joint planning on future exchanges and goals, and (7) interdependence, where this increases the power application in the relational exchange (Dwyer, Schurr & Oh 1987). These seven attributes can be characterised as a strategic network, which is the form of organisational relationship between market and vertical integration that will be discussed in the following section.

### **Strategic networks as an interorganisational relationship**

A strategic network, which can be characterised as a *hybrid transaction*, is the third kind of exchange mode or organisational relationship (Macneil 1981; Williamson 1991b). TCA describes the network as an intermediate form; that is, a hybrid transaction (Williamson 1991b) or a relational exchange (Macneil 1981) between the two extremes – vertical integration and market transaction – as discussed above. Theoretically, a strategic network is inherently long-term in nature; and, since partners expect equity in the long run, they are willing to forego certain short-term benefits. Unlike a market or discrete transaction, either of which involves limited communication, a relational transaction involves greater integration with the exchange partners (Heide 1994).

In TCA, a strategic network is a governance mechanism in which parties engage in co-operative behaviours and co-ordinate activities in such areas as production, purchasing, research and development, and/or marketing. Furthermore, strategic networks involve many activities – logistic activities, such as inventory management, transportation, warehousing and order processing; and other activities, such as customer

relationship management, demand management, order fulfilment, procurement, product development and commercialisation (Romano & Vinelli 2001). Firms in the strategic network must establish priorities, manage the linkages that define the network, and develop individual core competencies, in order to compete successfully in the global marketplace. These core competencies include the ability to design, manage and organise strategic partnerships with customers, suppliers, distributors and other parties (Barney 1995; Webster 1992).

In brief, there are three types of interorganisational relationship in business transactions – vertical integration, and market and strategic networks – in which strategic networks have been widely discussed in the literature and used in contemporary practice. This research will explore how strategic networks affect the transactional performance of networked firms.

### **2.3.2 Parent theory II: relational exchange**

The traditional TCA describes exchange transaction as a discrete event. When a history of past experience is encountered in prior relationships and a broader network of relationships, the discrete type of transaction relationship between exchange relationships needs to be revised (Gulati, Nohria & Zaheer 2000). Using Macneil's (1978, p. 858) terminology, the opposite of discreteness is 'integration into a relation', which means the cultivation of relationships. Indeed, Macneil's (1981) theory of relational exchange describes the departure from a discrete exchange to the development of a bilateral relation, in which the parties jointly establish policies toward the achievement of certain goals (Heide 1994). The basic concept of relational exchange is to consider explicitly the historical and social contexts of previous exchange experiences (Dwyer, Schurr & Oh 1987; Heide 1994; Kaufmann & Stern 1988). Unlike TCA, the main unit of analysis for relational exchange is the long-term transaction. The main objective of this theory is long-term oriented and reciprocal interpersonal relationships beyond simple buying and selling (Li & Dant 1997; Metcalf, Frear & Krishnan 1992). Relational exchange is driven by the assumptions of (1) equality between exchange partners; (2) reciprocity; and (3) self-interest. In this research, seven constructs of interest to relational exchange include trust, commitment, reputation, communication, relationship continuity, size of the supplier base and transaction costs.

According to the theory of relational exchange, the nature of social interactions between partners affects relationship outcomes, like trust and commitment (Kelley & Thibaut 1978; Thibaut & Kelley 1959). Empirical support for relational exchange can be found in the literature (Dyer 1997; Powell 1990; Uzzi 1997; Zaheer & Venkatraman 1995), in which these two constructs are behavioural factors and safeguard specific assets that encourage bilateral exchange relationships (De Toni & Nassimbeni 2000; Fynes, Voss & Burca 2005). Therefore, there is a greater potential for relationship formation and growth under high degrees of relational exchange (Berry 1995; Berry & Gresham 1986; Metcalf, Frear & Krishnan 1992).

Specifically, a relational transaction can mitigate transaction costs, by making opportunism costly because of reputational effects. The cost of opportunism in a network is high, because it not only does damage to one's reputation in a specific network, it also damages all other current and potential network partners. Communication within networks can disseminate information quickly, when one practises opportunistic behaviour. Therefore, a network can diminish opportunism. As reputations take times to build and can be destroyed rapidly, networks can create barriers for opportunistic behaviour (Gulati, Nohria & Zaheer 2000). These insights are consistent with the theoretical argument that relational exchange governance has an irreplaceable function, in terms of restraining exchange opportunism (Lai, Bao & Li 2007; Wathne & Heide 2000). When opportunism is controlled, the expectation of relationship continuity is enhanced, moving the discrete end of the continuum towards relational transactions at the other end (Noordewier, John & Nevin 1990).

### **2.3.3 Parent theory III: social capital**

Social capital basically refers to the shared knowledge, understanding, norms, rules and expectations of social interactions among groups of individuals that are brought to a recurrent activity (Ostrom 2000; Tsai & Ghoshal 1998). It concerns connections between individuals, social networks and the norms of reciprocity (Putnam, Leonardi & Nanetti 1993). The unit of analysis of social capital also is the long-term transaction, as a relational exchange. The objective of social capital is to reduce transaction costs by generating expectations, informal rules of conduct, and a common understanding that enables parties to conduct business transactions more efficiently (Batt 2008). When participating in opportunistic behaviours creates a social dilemma, involved parties may

find ways of creating mutually-reinforcing expectations and trust to reduce the short-term temptations of acting opportunistically (Ostrom 2000). Consequently, a long-term orientation of networking behaviour leads to relationship development between buyers and suppliers in business transactions (Theingi, Purchase & Phungphol 2008). Viewed broadly, social capital is a concept that incorporates constructs like trust, commitment, communication, cooperation, *guanxi*, relationship continuity and transaction costs, all of which will be addressed in Section 2.4.

Social capital emphasises the importance of collaborative relationships in networks. Essentially, social capital acts critically in the enforcement and development of networking in developing economies (Batt 2008). Indeed, strategic networking is more relational than discrete transactions, concerning self-liquidating and continuous relationships. Strategic networking in the Western management literature is used as a form of relationship that enhances competitive advantage among firms within a network. Networking also can establish a connection between businessmen and women of different nations and cultures, stimulating trade that otherwise might not have taken place at all (Thorelli 1986). In the West, the concept of trust is important in the bonding of strategic networks (Batt 2008); conversely, in Chinese societies, *guanxi* relations are more important in continued network development. This cultural factor – *guanxi* – includes the above characteristics from Western networking, combining a unique Chinese social norm, and has strong implications for the interorganisational dynamics that occur in Chinese society (Luo 2007). Given the influence of globalisation and the emergence of powerful new global players like China and India, it is essential that a better understanding of the roles of social capital and strategic networks in Asia is established (Batt 2008). In brief, both trust and *guanxi* can enhance the development of strategic networks.

In brief, transaction cost analysis, relational exchange and social capital have been adopted extensively in the Western literature (Batt 2008; Dwyer, Schurr & Oh 1987; Heide 1994; Kaufmann & Stern 1988; Macneil 1978, 1980; Rindfleisch & Heide 1997; Williamson 1975, 1979, 1985). Despite numerous empirical studies having used these three theories, to date, little empirical research has been done integrating theoretical perspectives together with cultural influences in Asia. This study takes the initiative to study networking variables in a non-Western setting. By considering these three theoretical perspectives in terms of cultural impact, constructs within the (1) antecedents

of strategic networking, (2) intensity of collaborative relationships, and (3) transaction costs are studied.

Table 2.2 Comparative summary of theories

Parent theory	Key assumptions	Constructs of interest
<b>Transaction cost analysis</b>	<ul style="list-style-type: none"> <li>• Existence of optimal relationship governance model which minimises transaction costs</li> </ul>	<ul style="list-style-type: none"> <li>• Commitment</li> <li>• Risk management</li> <li>• Asset specificity</li> <li>• Size of supplier base</li> <li>• Transaction costs</li> </ul>
<b>Relational exchange</b>	<ul style="list-style-type: none"> <li>• Social interactions between exchange partners</li> <li>• Transactional reciprocity</li> <li>• Self-interest</li> </ul>	<ul style="list-style-type: none"> <li>• Trust</li> <li>• Commitment</li> <li>• Reputation</li> <li>• Communication</li> <li>• Relationship continuity</li> <li>• Size of supplier base</li> <li>• Transaction costs</li> </ul>
<b>Social capital</b>	<ul style="list-style-type: none"> <li>• Social interactions among ground of individual</li> <li>• Norms of reciprocity</li> </ul>	<ul style="list-style-type: none"> <li>• Trust</li> <li>• Commitment</li> <li>• Communication</li> <li>• Cooperation</li> <li>• <i>Guanxi</i></li> <li>• Relationship continuity</li> <li>• Transaction costs</li> </ul>

Source: modified from Kristof (1999).

## 2.4 Focus theory: developing a theoretical framework for this research

Building upon the parent theories of the strategic networks described in the previous section, this section goes on to discuss the focus theory of this chapter. *Focus theory* describes the key concepts of the research which, in turn, will contribute to the development of a theoretical framework for buyer-seller relationships within the context of strategic networking (Section 2.5).

This section is divided into three parts. The transactional and relational constructs that exist within a networking environment, and that can be used to explain the practice of networks within the Hong Kong clothing industry, will be identified in Sub-section 2.4.1 (key concept one: antecedents of strategic networking), Sub-section 2.4.2 (key concept two: intensity of collaborative relationships) and Sub-section 2.4.3 (key concept three: transaction costs), which then will lead to the development of a preliminary theoretical framework in Section 2.5 and research hypotheses for the current study in Chapter 4.

### **2.4.1 Key concept one: antecedents of strategic networking**

The first key concept pertains to the antecedents of strategic networking. Closely linked with the continuance of a successful strategic network are the antecedents of strategic networking, the first group of constructs that attracts attention in the literature. This section discusses the six basic antecedents of strategic networking that tend to exist in Western countries, which are trust, commitment, reputation, communication, cooperation and risk management (such as Anderson & Weitz 1989; Anderson & Narus 1990; Chang & Harwood 2001; Fontenot & Wilson 1997; Van Alstyne 1997; Wilson 1995), and one antecedent from Asia, which is *guanxi* (such as Davies et al. 1995; Leung & Wong 2001; So & Walker 2006), as they relate to establishing successful strategic networks. The following parts in this sub-section consider these seven antecedents in turn.

#### **Six basic antecedents of strategic networking**

This part identified six possible basic antecedents of strategic networking that exist in the West. Among them, two of these antecedents also can be confirmed important in Hong Kong's clothing manufacturing industry: higher trust and higher commitment (Chang & Harwood 2001). Some empirical studies in Western countries have found other networking antecedents, like reputation (for example, Anderson and Weitz, 1989), communication (for example, Anderson and Narus, 1990), cooperation (for example, Carson et al. 2003) and risk management (for example, Abrams et al. 2007). These antecedents are found to be a frequently used constructs in the studies of TCA (Williamson 1985), relational exchange (Wilson & Kristan Moller 1991), and social capital paradigm (Batt 2008). Are all these antecedents of strategic networking also significant to network management in the Hong Kong clothing industry? This research intends to answer this question.



## Trust as the first construct of antecedents of strategic networking

The first antecedent – trust – can act as a governance mechanism for embedded relationships (Uzzi 1996). It often has been cited as the most important of the six essential elements, contributing significantly to the success of strategic networks (Arino, Torre & Ring 2001; Barney & Hansen 1994; Chang & Harwood 2001; Dyer & Chu 2003; Hamel 1991; Jarillo 1988, 1993; Man & Cheng 1996; Moorman, Zaltman & Deshpande 1992; Morgan & Hunt 1994; Ring & Van de Ven 1992; Smith, Carroll & Ashford 1995; Thorelli 1986; Wilson 1995; Zaheer, McEvily & Perrone 1998; Zaheer & Venkatraman 1995). As such, ‘the study of trust and its impact on co-operative relationships at all levels may be a particularly fruitful area of future research’ (Smith, Carroll & Ashford 1995, p. 15).

In general, scholars have made different assumptions regarding trust. Relational exchange theory emphasises trust as a crucial factor in fostering and maintaining value-enhancing relational transactions (Lado, Dant & Tekleab 2008). The central principle of relational exchange is that trust can be created from personal relationships and used to control opportunistic behaviour between firms. Social capital theory advocates social interactions between parties, in which these social relationships generate trust, in addition to developing and enforcing norms of behaviour. Social capital makes things run more smoothly between networked parties and bonds networks together through trust (Theingi, Purchase & Phungphol 2008). Specifically, cultural norms and values – like collective responsibility, loyalty and harmony in Japan – enhance the high level of goodwill trust between firms. Societies with high trust, like Japan, require less vertical integration than those with low trust (Dyer 1996a; Williamson 1985). Subsequently, networked members can achieve a high level of performance by working together efficiently in strategic networks (Anderson & Weitz 1992).

From the extant literature, the definition of trust proposed by Zaheer, McEvily and Perrone (1998) is compatible with networking. In this research, their definition was chosen, so trust can be defined in a way that *emphasises reliable obligations, predictable actions and fair negotiations in exchanges, even if the possibility for opportunism is present* (Zaheer, McEvily & Perrone 1998). This definition delineates trust into three dimensions, pertaining to the reliability, predictability, and fairness of network partners; and these dimensions are the most compatible with the definitions of

trust in the networking literature. First, *reliability* can be described as the belief that partners can be relied upon to fulfil their obligations (Dyer & Chu 2003; Morgan & Hunt 1994). Trust includes the belief that network partners will act consistently on what they promise to do (Anderson & Weitz 1989; Doney & Cannon 1997; Schurr & Ozanne 1985). Second, *predictability* is the expectation that partners will perform in a predictable manner (Dyer & Chu 2003), which means there are general expectations regarding how each partner will behave in the future (Anderson & Narus 1990; Morgan & Hunt 1994; Selnes 1998). Third, *fairness* indicates the confidence in the other parties' goodwill, as in social capital theory (Batt 2008), which implies that a firm is expected to behave and negotiate fairly, and does not take advantage of an exchange partner even if there is opportunity to do so (Anderson & Narus 1990; Carson et al. 2003; Dyer & Chu 2003; Ring & Van de Ven 1992). In light of these three dimensions of trust, each partner is genuinely interested in the others' welfare and is motivated to seek mutual benefit (Doney & Cannon 1997); in this way, these dimensions are important in explaining the central role that trust has in strategic networks.

Essentially, two levels of trust – interpersonal trust and interorganisational trust – are identified (Zaheer, McEvily & Perrone 1998). They are related, but are different constructs that take different roles in effecting exchange performance. Interpersonal trust refers to the extent of a firm's trust in their counterpart in the partner organisation. In this regard, interpersonal trust is the trust between each participant and all other individuals inside the strategic network. Interpersonal trust does not lead to a reduction in negotiation transaction costs. On the other hand, even when individual personnel in different firms do not trust one another, provided that there is a high degree of interorganisational trust, negotiating costs can remain low (Zaheer, McEvily & Perrone 1998).

Next, interorganisational trust refers to the extent of trust placed in the organisation by the partners of a focal organisation (Zaheer, McEvily & Perrone 1998). That is, it describes the extent to which organisational partners have a collectively-held trust orientation toward the partner firms. Employees in an organisation may share this orientation toward other firms. When institutional patterns of trading between organisations are carried out, interorganisational trust has a direct effect on performance, such as accelerating rapid responses to market. Therefore, interorganisational trust plays a more prominent role than interpersonal trust.

However, trust at the personal level, instead of the organisational level, serves as the primary basis for business transactions among Chinese firms in Hong Kong, Taiwan and Southeast Asia (Redding 1991). Indeed, the greater the buying firm's trust in the salesperson of a supplier, the greater their trust in the supplying firm. Essentially, industrial markets involve moderate levels of dependence relative to channel relationships, the salesperson's role is less critical (Doney & Cannon 1997), and trust at the personal level can be transferred to the organisational level in Asia (Lee & Dawes 2005); consequently, interorganisational trust will be a main focus of this research.

***Importance of trust in strategic networks.*** Trust is crucial in a network, because it can be conducive to constructive or integrative behaviour. Integrative behaviour can result from co-operative problem-solving, information exchange, goal clarification between partners, and commitment to execute agreements, while low levels of trust lead to destructive behaviours (Schurr & Ozanne 1985). Thus, trust is important in building up long-term relationships and confidence, as it can correct short-term inequities for long-term benefits (Anderson & Weitz 1989).

Essentially, trust can be established only after the partners have completed transactions together successfully and developed a mutually-satisfying experience of collaboration (Thorelli 1986). If partners have frequent successful exchanges, they are more likely to bring higher levels of trust to subsequent transactions (Ring & Van de Ven 1992). Past successful transactions also may diminish the time required to gather proprietary information, because parties place greater reliance on each other and do not act opportunistically. Therefore, repeat transactions with existing partners discourages opportunistic behaviour and avoids the search for short-term advantages (Dyer & Chu 2003; McEvily, Perrone & Zaheer 2003; Morgan & Hunt 1994; Ring & Van de Ven 1992; Zaheer, McEvily & Perrone 1998). For this reason, a buyer is more willing to co-operate and continue a relationship with a networked supplier (Selnes 1998).

In addition, when a supplier develops trust in a manufacturer, that manufacturer will tend to offer more sales support to the supplier (Anderson & Narus 1990). Once there is co-operation between partners, trust is established and firms jointly co-ordinate their efforts with network partners. In this way, firms learn that joint efforts will lead to the achievement of greater mutual benefits than if the firm were to act solely in its own best

interests (Anderson & Narus 1990). For example, in the clothing industry, a high level of trust must exist between fabric suppliers, clothing manufacturers and buyers. If there is trust between clothing manufacturers and fabric suppliers, then clothing manufacturers do not need to inspect the fabric produced as frequently. As fabric suppliers are trusted to have accurately inspected the fabric, the labour costs of sending quality controllers to fabric mills are reduced. This kind of co-operation and trust may result in increasing productivity (Burns & Bryant 2002).

Also, when trust is present among parties, knowledge disclosure is increased and the need to screen information for accuracy is reduced. This is because information and knowledge are received from a trusted partner (McEvily, Perrone & Zaheer 2003). More specifically, suppliers are willing to share sensitive and proprietary details with their buying firms when trust is inherent among parties (Dyer & Chu 2003; McEvily, Perrone & Zaheer 2003). This allows the receiver to immediately respond to received knowledge and make use of it. Therefore, trust can reduce time and resources that would otherwise be spent monitoring a supplier's performance and require them to adhere to predetermined agreements (Dyer & Chu 2003), and thus is an important antecedent of strategic networking in buyer-supplier relationships.

### **Commitment as the second construct of antecedents of strategic networking**

Closely linked with trust is commitment, as trust leads to commitment (Morgan & Hunt 1994). Commitment is the second key variable in successful network relationships and one of the variables most commonly used to measure buyer-supplier relationships (Anderson & Weitz 1992; Dwyer, Schurr & Oh 1987; Fontenot & Wilson 1997; Gundlach, Achrol & Mentzer 1995; Hocutt 1998; Morgan & Hunt 1994; Selnes 1998; Stanko, Bonner & Calantone 2007; Williamson 1985; Wilson 1995). Commitment also is positioned at the highest level in exchange relationships (Dwyer, Schurr & Oh 1987). The level of commitment is stronger for social relationships than for pure business relationships, as a bond of attachment exists in personal relationships (Jarvis & Wilcox 1977). Moreover, studies indicate that commitment enhances business performance (Anderson & Weitz 1992; Garbarino & Johnson 1999; Selnes 1998). Therefore, it is important to maintain successful long-term relationships.

Commitment can be defined in three dimensions: instrumental, attitudinal and temporal (Gundlach, Achrol & Mentzer 1995). The first dimension of commitment is an *instrumental* view (Becker 1960; Gundlach, Achrol & Mentzer 1995; Perry, Cavaye & Coote 2002), which is ‘an affirmative action taken by one party that creates a self-interest stake in the relationship and demonstrates something more than a mere promise’ (Gundlach, Achrol & Mentzer 1995, p. 79). This view advocates the allocation of resources and pledges specifically made in networking to exchange partners (Anderson & Weitz 1992; Williamson 1985). Instrumental commitment is caused by the presence of switching costs that fix at least one partner into the exchange relationship, by making an investment in its partners (Perry, Cavaye & Coote 2002). In a repeat purchase, the buyer is familiar with its supplier. This buyer has to make decisions as to whether or not to continue the relationship, based on its assessment of economic efficiency, the fairness of past transactions, and its satisfaction with the supplier (Selles 1998). Also, if relational exchange is significant to the differentiation of the product, switching costs to alternative partners will be high and the firm will stay in the relationship (Fontenot & Wilson 1997). A partner will leave the relationship only when the costs of remaining in the relationship exceed switching costs. In this circumstance, the buyer’s anticipation of low perceived risk and high switching cost give rise to the buyer’s interest in maintaining a quality relationship (Dwyer, Schurr & Oh 1987; Selnes 1998).

The second dimension of commitment is *attitudinal*, which is described in terms of affective commitment (Gundlach, Achrol & Mentzer 1995; Perry, Cavaye & Coote 2002). It is viewed as the final destination of the development of a relationship, because it ensures the future continuation of that relationship (Perry, Cavaye & Coote 2002). It involves the desire or intention to maintain a worthwhile and valued relationship into the future (Anderson & Weitz 1992; Dwyer, Schurr & Oh 1987; Moorman, Zaltman & Deshpande 1992; Morgan & Hunt 1994). Also, there is a bilateral expectation of a continued and stable exchange (Heide & John 1990).

The *temporal* dynamic of commitment is the last dimension. This dimension focuses on the commitment that lasts long-term, and on inputs brought to the relationship that are durable and consistent over time (Becker 1960; Dwyer, Schurr & Oh 1987; Gundlach, Achrol & Mentzer 1995). As there is durability of association over time, parties can bond themselves in such a way as to encourage their continued investment in the

relationship. Consequently, partners deliberately allocate resources to maintain the relationship in this dimension (Dwyer, Schurr & Oh 1987). Relationships that are expected to be short-term are seen to have lower levels of temporal commitment.

Commitment has been widely researched by scholars and is viewed as the ‘implicit or explicit pledge of relational continuity between exchange partners’ (Dwyer, Schurr & Oh 1987, p. 19). That is, relationship commitment reflects a desire, on the part of an exchange partner, to maximise its efforts towards maintaining its valued relationship with other partners, as well as a belief that the relationship is worth the effort it takes to ensure it continues for as long as possible (Anderson & Weitz 1992; Morgan & Hunt 1994). Therefore, the first, instrumental dimension of commitment is more suitable for the definition developed for the purposes of this research. In brief, commitment in the instrumental view is *a partner’s determination to invest maximum effort in carrying out an implicit or explicit pledge, such as the development of a new product or service program to ensure the continuity and stability of the network relationship* (Dwyer, Schurr & Oh 1987; Fontenot & Wilson 1997; Monczka et al. 1998; Morgan & Hunt 1994; Wilson 1995).

***Importance of commitment in strategic networks.*** Based on the characteristic of continuation for commitment, future orientation is the main concept behind commitment (Anderson & Weitz 1992; Ganesan 1994). It suggests that a committed partner believes that an ongoing network relationship is guaranteed (Anderson & Weitz 1992; Morgan & Hunt 1994), so it represents the highest stage of relational bonding (Dwyer, Schurr & Oh 1987). When firms exert a maximum effort to establish a relationship, such relationships can survive and be sustained even when they face unanticipated problems (Fynes & Voss 2002). Therefore, commitment implies a desire to ensure continuity and stability of the relationship and a willingness to make short-term sacrifices in order to gain long-term benefits (Anderson & Weitz 1992; Jap & Ganesan 2000; Kumar, Scheer & Steenkamp 1995b; Moorman, Zaltman & Deshpande 1992). In turn, commitment leads to better performance within a strategic network (Skarmeas, Katsikeas & Schlegelmilch 2002).

From a social capital perspective, relationships consist of social interactions, and can be constructed on the foundation of mutual commitment. When there is mutual commitment in a stable relationship, independent networked partners work together to better serve customer needs, ensuring a higher level of performance and mutual profitability (Berry & Parasuraman 1991). Establishing mutual commitment with suppliers, manufacturers gain greater access to market information for new product development, and receive more assistance in launching new products (Anderson & Weitz 1992). Committed suppliers also may help manufacturers to differentiate themselves in the market and develop a competitive advantage (Jap & Ganesan 2000), which, in turn, generally leads to relationship enhancement and continuity with suppliers (Selnes 1998). As both parties exert themselves in mutual commitment for the long term, a higher level of commitment leads to partnership success.

### **Reputation as the third construct of antecedents of strategic networking**

The third basic antecedent is reputation. Reputation has long been documented as one of the significant antecedents in a strategic network (Anderson & Weitz 1989, 1992; Dyer 1996a; Jarillo 1993; Macneil 1981; Williamson 1991b). A good reputation represents an asset to a company, in that it can be trusted to provide good products and/or services (Hansen, Samuelsen & Silseth 2008). The reputation of a firm is a reflection of fair play between partners as well as whether the firm is concerned about its partners' well-being (Anderson & Weitz 1989). A positive reputation implies that a firm is highly admired, respected or meritorious; hence, reputation is an intangible but valuable asset (Dollinger, Golden & Saxton 1997). If a supplier fails to deliver a critical product on time, it could lose a valuable customer and endanger its reputation in the industry (Doney & Cannon 1997). In a strategic network, a positive reputation not only encourages partners for future business transactions; it also reduces transaction costs, because there is no need to seek out lower costs by choosing alternative strategic partners. Indeed, a firm's reputation for fairness is an important indicator for its partners in determining whether or not the firm is likely to insist on detailed contracts or be willing to make investments based on oral promises (Dyer 1996a). Reputation declines when companies frequently terminate relationships with partners, resulting in unstable relationships and ultimate termination of the business transaction (Anderson & Weitz 1989).

Clearly, economic performance is not the only factor that is important when assessing the reputation of a firm. Non-economic criteria also apply (Fombrun & Shanley 1990). Information is needed when decision makers select their strategic partners. Indeed, managers assess a firm's reputation using non-economic criteria like quality of management; quality of products; long-term investment value; product innovativeness; financial soundness; ability to attract, nurture, and retain talented employees; social responsibility; and the use of corporate resources (Fombrun & Shanley 1990).

However, it would be more effective to differentiate reputation into three major dimensions, adopted from the Fortune corporate reputation survey by Fombrun and Shanley (1990): product quality and innovativeness; management integrity; and financial soundness (Dollinger, Golden & Saxton 1997). First, firms with a good reputation should be known to provide high *quality* products at a reasonable price; in fact, the products should be among the best in the industry. However, the current research will focus on the relationship between buyers and suppliers, and materials provided by suppliers may affect any assessment of this dimension. Therefore, the quality dimension was not included in the current research. Second, firms with a good reputation should be known for their *management integrity*. Top managers should display concern for their community and be responsive to environmental issues. They also should be known for attracting, developing and retaining talented employees. Third, such firms should be well known for their *financial soundness*, consistently providing investors with excellent returns over the long term. In addition, they should be well known for efficiently and effectively allocating and utilising corporate assets.

Another dimension of reputation concerns the network identities (Anderson, Hakansson & Johnason 1994). Firms with a good reputation should have good network identities, which are the 'perceived attractiveness (or repulsiveness) of a firm as an exchange partner due to its unique set of connected relations with other firms, links to their activities, and ties with their resources' (Anderson, Hakansson & Johnason 1994, p. 4). Network identities also describe how firms perceive themselves in the network, and how they are seen by other network participants, and these can improve as a result of good relationships with suppliers. Therefore, in this research, reputation refers to the *perception of a firm's management integrity, financial soundness and network identity* (Anderson, Hakansson & Johnason 1994; Dollinger, Golden & Saxton 1997).



***Importance of reputation in strategic networks.*** Reputation is important to strategic networks. TCA provides one way of interpreting a network ‘as a non-hierarchical contracting relation in which reputation effects are quickly and accurately communicated’ (Williamson 1991, p. 290). The term *non-hierarchical contracting relation* refers to a relational transaction in strategic networks (Macneil 1981). Under such a relational transaction, reputation plays an important part in a network under uncertainties. Within a strategic network, the cost of opportunism is high, because it not only does damage to one’s reputation in a specific network, it also casts doubt among all other current and potential network partners (Gulati, Nohria & Zaheer 2000). Communication between parties helps to disseminate information quickly, such as when one practises opportunistic behaviour, so this reduces the tendency or incentive to behave opportunistically during an exchange. Therefore, reputation is crucial in business exchanges, in which a firm’s reputation can offset uncertainties in a business environment (Kreps & Wilson 1982).

### **Communication as the fourth construct of antecedents of strategic networking**

Communication is the fourth basic antecedent of successful strategic networks. From a social capital view, the flow of information is bidirectional (Jonsson & Zineldin 2003) and frequent communication allows parties to get to know one another and share important information so as to create mutual goals (Tsai & Ghoshal 1998). Relationships with other partners in networks allow firms to enjoy superior returns, due to having greater access to information and opportunities than other peripheral firms (Gulati, Nohria & Zaheer 2000). Thereby, communication related to information exchange is an important dimension of both traditional and relational exchanges, and the communication process is crucial to network success (Anderson & Weitz 1989; Anderson & Narus 1990; Chen & Paulraj 2004; Dwyer, Schurr & Oh 1987; Noordewier, John & Nevin 1990; Selnes 1998; Stanko, Bonner & Calantone 2007).

Indeed, effective communication between exchange partners is essential to achieve the benefits of collaboration (Cummings 1984). Three dimensions of communication behaviour can be identified: communication quality; extent of information sharing between partners; and participation in planning and goal setting (Mohr & Spekman 1994). First, *communication quality* refers to the formal and informal sharing of meaningful, timely information between firms (Anderson & Narus 1990). More

precisely, it involves the exchange of accurate, timely, adequate and credible information between networked partners (Mohr & Spekman 1994). Willingness to share information is viewed as trustworthiness on the part of the supplier, and buyers can use this information to verify a supplier's capabilities (Dyer 1997). Suppliers who are unwilling to share information on cost, quality and production will not be trusted, and relationships with these suppliers will deteriorate or even be terminated. Therefore, information symmetry helps reduce contracting and monitoring costs, as the parties are negotiating with related information. Conversely, poor communication often is a weakness between buyers and suppliers, which exerts a negative impact on performance (Chen & Paulraj 2004).

Second, *information sharing* is activity-based (Denize & Young 2007), and involves the sharing of critical information with partners (Mohr & Spekman 1994). Partners are able to act independently to maintain their relationship over time by sharing information and by being knowledgeable about each other's businesses. Many supplier contracts are long term, provided that they are able to support process information, quality performance, and cost structures for buyers (Chen & Paulraj 2004). Information sharing between firms leads to lower total costs, higher order fulfilment rates and shorter order cycle times (Lin, Huang & Lin 2002). Thus, the information sharing process is an important indicator of network success (Devlin & Bleackley 1988).

Finally, as part of the relational aspects of information exchange (Denize & Young 2007), *participation* refers to the degree to which partners jointly engage in planning and goal setting (Mohr & Spekman 1994). Information exchange is needed for all transactions. In a discrete exchange, buyers give information that is essential to the supplier for the completion of the final product, such as product specification, price, and delivery schedules. When a relationship is developed, buyers communicate more with their suppliers and provide information on issues like long-term forecasting, as well as proprietary and structural planning, including future product design information, production planning schedules, and so on (Noordewier, John & Nevin 1990). Intensive two-way communication relates to plans, programs, expectations, goal setting and performance evaluation, which, in turn, facilitates the process by which to resolve disputes and co-ordinate actions. Hence, in this research, communication refers to *the participation of human activities and a qualified information exchange that links people together* (Chen & Paulraj 2004; Duncan & Moriarty 1998).

***Importance of communication in strategic networks.*** Communication is deeply embedded in networking relationships. Intensive communication enhances the achievement and monitoring of integrative agreements, which can make each party more confident in the relationship and prevent misunderstandings from arising (Anderson & Weitz 1989). Moreover, frequent two-way interchanges help to realise the mutual benefits inherent in networks, to facilitate co-ordination, to reduce conflicts, and to foster confidence in the continuity of the relationship (Anderson & Weitz 1992). Time, effort and the occasional frustrations involved in exchanging information serve to move a business arrangement closer to the level of a strategic network (Anderson & Weitz 1992). Information sharing within a partnership can generate new information by focusing diverse expertise on identifiable problems and opportunities, thereby creating more advanced or unique information resources relative to competitors (Van Alstyne 1997). Participation in communication leads to increased dyadic sales and satisfaction in a relationship with partners, so it is an important predictor of partnership success (Mohr & Spekman 1994).

Moreover, the advances in information technology have made it possible for partners in a network that spans the globe to communicate rapidly and seamlessly (Shapiro 2004). For example, daily communications are being applied with great frequency by the use of communications tools like electronic data interchange (EDI), e-mail and computer co-ordinated faxes. The use of EDI between manufacturers and suppliers can enhance information flow and reduce production lead time in the clothing industry (Anderson, Hakansson & Johnason 1994), by automating the buying and selling that occurs between network partners (Burns & Bryant 2002). Ultimately, partners benefit from faster response times, reduced inventories and reduced transaction costs. With advances in information technology, the ways by which companies design, manufacture and distribute soft goods in a supply chain improve, and this effective information sharing and co-ordination across all segments of the clothing industry lead to enhanced performance and accelerated response times (Burns & Bryant 2002).

### **Cooperation as the fifth construct of antecedents of strategic networking**

In recent decades, cooperation has been studied widely by scholars and regarded as another antecedent for a successful strategic network (Anderson, Hakansson & Johnason 1994; Anderson & Narus 1990; Carson et al. 2003; Dwyer, Schurr & Oh 1987; Fontenot & Wilson 1997; Heide & John 1990; Jarillo 1988; Jonsson & Zineldin 2003; Morgan & Hunt 1994; Powell 1990; Ring & Van de Ven 1994; Van Alstyne 1997; Wilson 1995). Social capital theory relies on the premise that cooperative behaviour implies the exchange or combination of resources (Tsai & Ghoshal 1998), and cooperation between firms can take place in the form of joint planning and collaboration (Fontenot & Wilson 1997). Cooperation involves collaborative planning (Barratt & Oliveira 2001), which means similar or complementary coordinated activities managed by firms to achieve superior mutual benefits with expected reciprocation over time (Anderson & Narus 1990). Also, cooperation allows each partner to have its own, albeit mutually compatible goals, with a certain degree of autonomy relinquished in favour of mutual success (Morgan & Hunt 1994). Hence, creating synergy or complementary practices from joint activities forms an essential feature of cooperation (Jarillo 1988; Powell 1990; Van Alstyne 1997).

In addition, closely related firms should carry out focal activities in a cooperative or coordinated way, in which the larger the scope and extent of joint activities, the more effectively the firms become partners in an alliance (Heide & John 1990). Such cooperative activities represent a means for firms to maintain or improve on their performance (Barratt & Oliveira 2001). Thus, cooperation should be voluntary in nature, where ‘collaborative behaviour is based on cooperation (willingness), rather than on compliance (requirement)’ (Chen & Paulraj, 2004, p.143). To sum up the above description on cooperation, cooperation in this research refers to *voluntarily and complementary long-term coordinated activities striving for mutual benefit and success* (Anderson & Narus 1990; Barratt & Oliveira 2001; Heide & John 1990; Jarillo 1988; Morgan & Hunt 1994; Powell 1990; Van Alstyne 1997).

***Importance of cooperation in strategic networks.*** Within a strategic network, it is necessary to understand the possibilities of cooperation and competition between firms. Independent firms compete against each other in an arms-length market relationship. However, in a strategic network, independent units run within a cooperative relationship. Each unit believes that benefits will be maximized by cooperation. This kind of relationship involves relatively unstructured tasks, open-ended contracts, and the implicit assumption of a stable relationship (Jarillo 1993). Additionally, firms solve bounded rationality and limited resource constraints through cooperation, rather than running independently (Van Alstyne 1997). Thus, the outcomes that result from cooperation between network partners are greater than those achieved functioning independently.

Within a strategic network, member firms can be well aware which among them can do better than outside firms. They also can more safely cooperate in business; share information and expertise; and develop a friendly, trusting environment. By jointly accomplishing specific organisational objectives, they can develop organisational competencies that cannot be fulfilled individually (Human & Provan 1997). Certainly, a well-developed strategic network helps to increase the competitiveness of a supply chain, by reducing costs and lead time in every process, from raw material sourcing, production and product clearance at customs, to distribution and retailing within the clothing industry (Lau et al. 2005). Networked partners are, consequently, more willing to forego their right to fully pursue their interests in the market, and instead contribute part of their own resources towards establishing and sustaining relationships with other members.

For instance, there are direct and joint business activities among multiple network partners, such as joint product development programmes. Many of the partners are competitors within the same industry, maintaining their independent position while working directly together for mutual objectives (Human & Provan 1997). Examples of joint actions in industrial purchasing relationships include product design, value analysis and cost targeting, design of quality control and delivery systems, and long-term planning (Heide & John 1990). *Just-in-time* also is a coordinated strategy of purchasing, production, and inventory practice in numerous manufacturing firms. These systems are built on trust and result in better performance and closer relationships (Hutt & Speh 2003). Hence, partners in networks jointly participate in different kinds of activity, in order to improve their performance.

Particularly, firms in material supply, and product manufacturing and distribution form part of a large strategic network in the clothing industry. In this strategic network, integrative and co-operative arrangements between buyers and sellers, sub-contractors, and even competitors are commonly established (Miles & Snow 1986). The tendency for firms in the clothing industry to collaborate, to develop a sustainable competitive advantage, is increasing. Many clothing firms use strategic networks to strengthen their competitiveness in the global arena (Chang & Harwood 2001).

### **Risk management as the sixth construct among the antecedents of strategic networking**

Risk management is the sixth basic antecedent of a successful strategic network (Abrams et al. 2007; Beasley et al. 2006; Beasley, Frigo & Litman 2007; Bowling & Rieger 2005; Harland, Brenchley & Walker 2003; Nelson & Ambrosini 2007; Shaw. 2005). Risk management is a priority in enterprises of all kinds. Beasley et al. (2007) stressed the strategic importance of risk management. In response to changing trends, more organisations are incorporating an emerging business practice known as *enterprise risk management* (ERM) that emphasises a top-down, holistic approach to effective risk management for the entire enterprise.

Specifically, ERM is a consistent and continuous process that applies across the company, enabling a holistic understanding of what the critical risks are, and how they are linked to the achievement of strategic objectives (Abrams et al. 2007; Beasley, Frigo & Litman 2007). According to TCA, unanticipated changes exist in the circumstances surrounding business exchanges (Noordewier, John & Nevin 1990). Risk management tends to identify, analyse, respond to and monitor such risks or opportunities, within the internal and external environment facing an enterprise (Abrams et al. 2007; Nelson & Ambrosini 2007; Shaw. 2005). Networks mitigate risks and allow firms to achieve strategic objectives, such as risk sharing, outsourcing value-chain stages, and organisational functions (Burns & Bryant 2002; Dyer 1996a; Gulati, Nohria & Zaheer 2000). In brief, for the purposes of the current research, risk management is comprised of the *consistent and continuous processes that strategically identify, analyse, respond to and monitor business risks or opportunities within the internal and external environment that are linked to the achievement of strategic objectives* (Abrams et al. 2007; Beasley, Frigo & Litman 2007; Nelson & Ambrosini 2007; Shaw. 2005).

According to TCA, suppliers tend to behave opportunistically, encouraging the buyer to adopt mechanisms to avoid such behaviour. Investments in specific assets from suppliers would be a preferable means by which to avoid such opportunism (Lado, Dant & Tekleab 2008). However, exchange difficulties are associated with asset specificity and high transaction costs under the conditions of environmental uncertainties and opportunism. This risky situation has provided economic incentives for hierarchical governance structures, for which firms have vertically integrated their production activities. Discrete transactions are favoured when contracts are explicitly written and enforced, and the transaction costs are low. Hybrid transactions, an intermediate form between hierarchical and discrete transactions, make sense as a governance choice, when transaction costs are optimal, to allow for hierarchical control and market-based exchange (Gulati, Nohria & Zaheer 2000). Also, TCA suggests that collaborative behaviour can be destroyed by opportunistic behaviour; consequently, firms must choose a governance mechanism to safeguard their transaction-specific investments and ensure the continuance of the relationship (Heide & John 1990). Hence, hybrid governance is a sensible choice, as is discussed below.

Because of the growing importance of risks to a company, there has been considerable research on risk management among companies (Abrams et al. 2007; Beasley et al. 2006; Beasley, Frigo & Litman 2007; Obuchowski 2006). Many firms see managing risks strategically as significantly impacting the creation of smoother governance procedures, greater confidence in business operations, and the monitoring of performance. ERM also may enable firms to improve management practices, such as strategic planning, and to have a greater ability to understand and weigh risk-reward equations in their decisions (Williams 2005). ERM is a process influenced by people at every level of the organisation; applied in strategy settings; and applied across the enterprise, at every level and unit, including the entity-level and portfolio view of risk. Firms applying ERM are able to provide reasonable assurance to an entity's management and board of directors, because guidelines are designed to manage risk within its risk appetite and identify potential events that, if they occur, will affect the entity. Finally, the ERM process can be geared to the achievement of objectives in one or more separate, but overlapping categories (Nelson & Ambrosini 2007).

***Importance of risk management to strategic networks.*** ERM is one of the most important dimensions of the corporate governance framework. It requires a focus on an organisation's overriding business strategy and objectives (Bowling & Rieger 2005). Risks and strategy are aligned, so ERM is integral to strategic planning and performance assessment (Beasley et al. 2006). Successful deployments of ERM in strategic planning seek to maximise value when setting strategic goals, by finding an optimal balance between performance goals and targets, and related risks. ERM can provide a powerful force for continuously evaluating business strategies and proactively developing countermeasures for dealing with the risks (Beasley, Frigo & Litman 2007). ERM also helps to control the overall costs of risk management, by anchoring activities to key business strategies and aggregating risks across the enterprise (Bowling & Rieger 2005).

Although there are many benefits to implementing ERM, there still are challenges with the ERM system. The unique challenges in managing ERP systems include re-engineering business processes to accommodate the process which the ERP software supports; investments in recruiting and updating the skills of technology professionals; using external consultants; and integrating their application-specific knowledge and technical expertise with existing teams (Sumner 2000). Therefore, Shaw (2005) proposed seven steps to implementing an effective ERM program within an organisation: (1) assemble and educate a cross-functional team representing each significant functional area of business; (2) identify risks and opportunities; (3) determine risk tolerance; (4) identify correlations between the risks and opportunities; (5) prioritise risks and opportunities; (6) determine appropriate actions for mitigating risks or exploiting opportunities, as necessary; and (7) put an enterprise risk management system in place to monitor and respond to events and trends on a continual basis.

In the clothing industry, potential risk is generated through fickle fashion trends, making the prediction of market demand sophisticated and difficult. Also, clothing manufacturing is labour intensive and sensitive to costs, making the relationships between buyers and suppliers in strategic networks harder to maintain. In order to manage a strategic network and thrive under an environment of great uncertainty, firms must assign great importance to risk assessment, and set up an efficient system to manage these risks. The ERM can be used to reduced the risks appeared in the clothing industry that affect the networking relationships between buyers and suppliers.



In summary, trust, commitment, reputation, communication, cooperation and risk management have been found to be important antecedents of strategic networking. Having discussed the six conventional antecedents of strategic networking found in the West, *guanxi*, which is the crucial antecedent in China, is discussed next.

### ***Guanxi*, construct of a special antecedent of strategic networking in a Chinese context**

One antecedent is especially important in Chinese society, and that is *guanxi* (關係) (So & Walker 2006). *Guanxi* is an attribute that advocates social norms in Chinese societies. It means personal connections and social relationships (Björkman & Kock 1995; Chow & Ng 2004; Davies et al. 1995), whereas networking in the West mainly concerns commercial-based, corporation-to-corporation relations (Luo 2007). In a social capital paradigm, norms of behaviour and reciprocity facilitate a common understanding of collective goals and proper ways of acting within a social system (Tsai & Ghoshal 1998); and they play an important role in strategic networking (Theingi, Purchase & Phungphol 2008). While *guanxi* has been widely recognised among both business people and academics, the kind of *guanxi* relationship that exists in strategic networks has received less consideration from management scholars (So & Walker 2006). *Guanxi* also is a noteworthy concept for researchers to study, because there is an increasing need for Western business people to adapt to and operate in non-Western environments. The influence of *guanxi* extends throughout East Asia (Lovett, Simmons & Kali 1999) and it can be considered an antecedent leading to the success of strategic networks in the Hong Kong clothing industry (Lau & Moon 2007).

When the word *guanxi* is translated into English, it becomes simply ‘relationship’. However, when it is spelt as *guanxi* based in Beijing’s pin-yin system, it is found to be composed of two Chinese words: *guan* (gate) and *xi* (connection) – so one must pass through the gate to become connected to the network (Wang 2007). *Guanxi* is an ancient social mechanism among many Chinese, and is largely based upon personal relationships (Lovett, Simmons & Kali 1999), or so-called ‘personal ties’ (So & Walker 2006). In other words, it refers to relationships between people, actual connections or contacts between people, and people with whom one has a strong connection (Bian 1994). The meaning of *guanxi* can be extended to personal friendship, with implications

for the continued and reciprocal exchange of favours (Bian 1994; Davies et al. 1995; Pye 1992; Tsang 1998). In this research, *guanxi* is defined as *a special relationship or friendship, implying the continued and reciprocal exchange of favours* (Bian 1994; Davies et al. 1995; Pye 1992; Tsang 1998).

In a typical Chinese context, *guanxi* goes deeper than connection, which often refers to networks of informal relationships. Its essence is a set of interpersonal interactions involving long-term social obligations or reciprocal exchanges of favours in business activities throughout China and East Asia (Bian 1997; De Mente 1994; Lee, Pae & Wong 2001; Leung, Wong & Wong 1996; Lovett, Simmons & Kali 1999; Luo 1997; Millington, Eberhardt & Wilkinson 2006). In other words, personal connections can be used to secure favours (Luo 1997). There is an increasing need for social interactions and personal contacts, both formally and informally, at different management levels in Chinese society (Batt 2008). Without *guanxi*, one can scarcely get anything done, so it is integral to successful Chinese business activities (So & Walker 2006).

*Guanxi* does not necessarily mean immediately returning a favour to another. *Guanxi* may involve providing constant help to a person without receiving any favour in return, provided there is trust between the parties that there will be a reasonable favour in return sometime in the future (Buttery & Leung 1998). Moreover, it facilitates exchanges, by cultivating with ingenuity and creativity, and supplementing with flexibility (Leung, Wong & Wong 1996).

However, *guanxi* also may exist on an individual level only. (Tsang 1998) *Guanxi* can be identified in terms of both a blood base and a social base. When *guanxi* includes one's family members, relatives, and members of the same clan, it is referred to as blood-based; whereas the other *guanxi*, which arises from social interactions, is considered to be social-based. A social *guanxi* base exists when there are regular transactions or formal collaborative agreements between organisations, such as the relationship between supplier and purchaser, and between producer and customer, or any type of exchange relationships within a strategic network. Based upon such an individual and social *guanxi* base, organisational *guanxi* is generated, for which business transactions are initiated and implemented by individuals in an organisation. Nevertheless, if the knowledge of staff is not recorded in an organisation, the organisation may lose the knowledge related to working with these other organisations

when this person leaves the company. Therefore, a company may try to involve more staff in valuable *guanxi* with other organisations, by organising regular meetings and social activities between the staff members of both companies. In this way, organisational *guanxi* can be strengthened by the numerous personal *guanxi* that exists among the staff members.

***Mianzi and renqing.*** Business relationships in Asian countries largely are developed based on Chinese characteristics like *guanxi*, *mianzi*, *renqing*, and harmony (Theingi, Purchase & Phungphol 2008). In order to strengthen the *guanxi* relationships that develop between parties, two important concepts – *mianzi* (面子) ('face' or social status) and *renqing* (人情) (social or humanised obligation) – need to be recognised (Luo 2007). *Mianzi* is the Chinese concept of giving face. It can be defined as 'giving one's respect and recognising the status and moral reputation of others' (Buttery & Leung 1998, p. 384), so it is an intangible form of personal status or dignity (Redding & Baldwin 1991). Chinese people believe that a certain amount of face can help to cultivate a viable network of *guanxi* relationships. More importantly, while it is essential to protect one another's face, one also must give face to each other; that is, one must praise each other's reputation within society. Then, respect and courtesy can be established between parties in a reciprocal relationship (Buttery & Leung 1998). Therefore, people who have committed to a *guanxi* relationship with one another have implicitly engaged in an unspoken code of reciprocity and equity.

However, failure to recognise this commitment link or to refuse to return favours could seriously damage one's social reputation, leading to a humiliating loss of prestige or face and the subsequent labelling of 'untrustworthy' (Luo 1997; Luo & Chen 1997). Losing face means losing one's status and reputation, and indicates a loss of confidence and lack of trust. To act aggressively in a business exchange, on either party's side, also can damage the face of the other party (Buttery & Leung 1998). If people refuse someone or object to someone, they will disgrace that person, and he or she will feel a loss of face (Lin 2007). Therefore, it is important to pay special attention to the 'face' of others during business exchanges.

Another related concept to *guanxi* is *renqing*. Defined as a social or humanised obligation and the exchange of favours based on strong normative rules (Theingi, Purchase & Phungphol 2008), *renqing* is a precondition for the establishment of *guanxi*,

and is associated with face (Luo 1997; Luo & Chen 1997). *Renqing* ethics connote a set of moral norms that guide and regulate a person's behaviour. It also is a socially-accepted norm that a person takes the emotional responses of others into consideration and attempts to get along well with other people (Wang 2007; Yan 1996). From a social capital perspective, *renqing* acts as leverage during interpersonal exchanges of favours, so it implies unpaid obligations to the other party in a *guanxi* relationship. Indeed, *renqing* provides the moral foundation for reciprocity and equity that is implicit in *guanxi* relationships. An established *guanxi* network implies that *renqing* obligations must be repaid some day, because there is a contract-like obligation. Therefore, the response to receiving a gift is to return the favour some time later, at an appropriate time (King 1987). This shows that the favour provider must trust that the other party not only feels obligated; he also will carry out his part of the deal in the future by returning the favour, with the intention of continuing a long-term relationship (So & Walker 2006).

Furthermore, in order to act in accordance with *renqing* rules, a provision of face is needed, and this face indicates a demand for reciprocity and a signal of goodwill (So & Walker 2006; Yang 1994). *Renqing* can be performed in the form of gift giving, holding a banquet, or wining and dining, all of which involve etiquette and polite rituals to save face for both sides (Yang 1994). These techniques usually are used as a means of developing and maintaining *guanxi*; but these activities are not equivalent to bribery (Leung & Wong 2001). For example, business people may give moon cakes or fruit to their partners during the Mid-Autumn Festival, invite them for dinner during the Lunar New Year, or give gifts at weddings. These special occasions provide the business person with a good opportunity to return favours (Yang 1994). If the rule of equity of exchanging favours is disregarded, a person will lose face; and he or she will hurt the other's feelings and jeopardise the *guanxi* network (Luo 1997).

However, in Chinese society, people should be reminded of the relationship's boundaries, neither acting too intimately, nor remaining unsociable or standoffish. (So & Walker 2006) In this way, the idea of the 'who-owes-whom' game of reciprocity should continue and each party will not overuse *guanxi* in the way that it becomes a burden for the other party. What is important is that each party must not forget his obligations to respond to or help the gift-giving party when called upon to provide assistance.

***Importance of guanxi in China.*** The concept of *guanxi* is tacitly embedded in Confucian philosophy and defines the Chinese moral code (Fock & Woo 1998). Confucianism is recognised as a major underlying cultural force governing the motives and practices of *guanxi* among the Chinese (Fock & Woo 1998). In Confucian social and political hierarchical theory, five relationships exist for humanity, called *wu lun* (五倫) in the Chinese language (Buttery & Leung 1998; Lee & Humphreys 2007). The *wu lun* present the five relationships between ruler and subject, father and son, husband and wife, elder brother and younger brother, and friend and friend. A Confucian gentleman must perform perfectly within these five fundamental relationships, and each individual must be immersed in his or her proper position – in this way, social harmony can be achieved (Buttery & Leung 1998). Therefore, the traditional concepts of Confucian *guanxi* support a set of moral codes, and are manipulated by Chinese political leaders to achieve an ideal, socially-harmonious and stable society (Leung & Wong 2001).

In Chinese society, the practice of *guanxi* by Chinese people is situation-specific and based upon past interpersonal interactions and shared life experiences with family, neighbours, classmates and colleagues (Chou et al. 2006). More precisely, beyond the five relationships of *wu lun*, *guanxi* can be extended to the business-to-business environment (Leung & Wong 2001; Man & Cheng 1996). This study attempts to investigate the business-to-business context and identify the perceptions of business *guanxi* in Hong Kong.

Moreover, the study of *guanxi* is a contemporary practice by many researchers. Over the next century, Western business practices may be moving towards *guanxi*-type mechanisms (Lovett, Simmons & Kali 1999), as it is essential to establishing intentions to do business with strangers within a Chinese society (Lee & Dawes 2005; Lovett, Simmons & Kali 1999; Luo 1997; Millington, Eberhardt & Wilkinson 2006), and it takes time to establish. Obviously, a newly-formed *guanxi* between partners will struggle to compete with a decades-old *guanxi* (Kambil, Long & Kwan 2006). However, once a *guanxi* network is established, favours are exchanged and circulated (Luo 1997). There will be a positive effect towards the perception of relationship quality and interdependence, which will, in turn, positively affect business performance (Lee, Pae & Wong 2001).

Furthermore, *guanxi* is also a prerequisite for most information and business exchanges in China (Björkman & Kock 1995). Trade executives in China even consider the task of communication to be more important than daily operations (Leung, Wong & Wong 1996). In Chinese societies, relationships are established initially through personal references and recommendations, and then reinforced by the need to build and maintain networking and increased social contacts (Batt 2008). That is to say, a business person must first develop good *guanxi* with principal managers in another organisation, so that he or she can build a good network with this organisation (Luo 1997). Then, if a business person can develop a good personal relationship with a central decision maker, he or she has the opportunity to win business deals controlled by this decision maker. Therefore, *guanxi* is significant, both in obtaining crucial information and in influencing Chinese decision makers. Essentially, *guanxi* smoothes transactions, helps to build company reputation and image, smoothes transport arrangements and payment collections, and enhances the acquisition of information and resources during interpersonal interactions (Davies et al. 1995; Leung, Wong & Wong 1996).

***Ethical issues of guanxi.*** Business people in Hong Kong spend time and resources to establish *guanxi* with their Chinese partners, so as to strengthen their relationships. In Hong Kong and China, there are potential dangers to providing favours to Chinese partners, due to political and legal perspectives in China. Firms must manage these issues carefully, as they tend not to give favours to their Chinese counterparts without company consensus (Leung & Wong 2001).

Indeed, the exploitation of *guanxi* networks offers the opportunity to access reliable, accurate and trustworthy information in a quick and efficient manner (Millington, Eberhardt & Wilkinson 2006; Park & Luo 2001; Wong & Ellis 2002). For example, firms can utilise *guanxi* with other firms to obtain information about others' experiences with potential suppliers. Therefore, *guanxi* can enhance searching for, identifying and evaluating potential suppliers (Millington, Eberhardt & Wilkinson 2006).

***Relationship marketing in Western, versus guanxi in Chinese society.*** *Guanxi* in Chinese society and relationship marketing or networking in the West are different concepts; but they share common characteristics. Both emphasise enduring long-term relationships rather than short-term discrete transactions. Relationship marketing is a

marketing philosophy that shows that doing business not only includes buyer-seller relationships (the domain of *guanxi*), but also the management of the service delivery process. Relationship marketing has a broader perspective, in that it harmonises the activities of two parties and supports the establishment of a continuous long-term relationship. Relationship marketing operates at an organisational level, whereas *guanxi* encompasses personal relationships between individuals. In this regard, *guanxi* between two firms will be eliminated when a key *guanxi* person leaves either of the companies. In contrast, the philosophy of relationship marketing remains even when the *guanxi* person has gone (Leung & Wong 2001).

Moreover, personal relationships dominate in Chinese societies and are not separated from business relationships (So & Walker 2006). *Guanxi* networks place more emphasis on developing relationship-based and long-term oriented personal relationships. When the personal relationship is devoted to and used by the organisation, for whatever purposes, *guanxi* then plays a role at the organisational level (Luo 1997). In comparison, Western networks tend to be more contractual-based and short-term oriented, and place more emphasis on corporate-to-corporate relations and organisational commitments (Batonda & Perry 2003b; Lee, Pae & Wong 2001; Luo 1997; Yeung 1995). Accordingly, business relations in the West are more technical and company-oriented, beginning with recognition and negotiation to establish a formal contract (So & Walker 2006). Having business exchanges between partnering firms does not necessarily mean that they have built a personal relationship (Buttery & Leung 1998). The differences between these two approaches underlie idiosyncratic business behaviours in two heterogeneous settings: firms in a Chinese society build the relationship first and, if successful, transactions will follow; whereas Western businesses build transactions first and, if they are successful, a relationship will follow (Ambler 1994). The difference between *guanxi* and relationship marketing is shown in Table 2.3.

Table 2.3 *Guanxi* versus relationship marketing

	<b><i>Guanxi</i></b>	<b>Relationship marketing</b>
<b>Origin</b>	Chinese societies	Western societies
<b>Objectives</b>	Concerns the continued and reciprocal exchange of favours	Harmonise the activities of two parties and support the establishment of a continuous long-term relationships
<b>Type of relationships</b>	Relationship-based	Contractual-based
<b>Length of relationship</b>	Long-term relationships	Long-term relationships
<b>Unit</b>	Personal level	Organisational level
<b>Key person resigns</b>	Relationships terminate	Relationships continue
<b>Steps to developing relationships</b>	Build the relationship first; if successful, transactions will follow	Build transactions first; if they are successful, a relationship will follow

Source: adapted from Ambler (1994); Lee, Pae and Wong (2001); Luo (1997); and Wang (2007).

There are cultural differences related to doing business in Chinese societies versus the West. In the West, firms develop their own business culture, with a different set of rules and characteristics that are distinct from private or personal culture. In Chinese society, no separate morality is developed for businesses. The main feature of Chinese businesses is proper human relations, or that of personal relationships based primarily on Confucianism, so there are no separate rules dividing the conduct of business from personal affairs. Importantly, *guanxi* involves a personal connection between people rather than firms. A successful business relationship among companies in China begins with the establishment of a personal bond between the key managers of the companies, and is based on maintaining these personal ties. Therefore, the combination of networking theory and cultural impact contributes to a different perspective in social capital theory (De Mente 1994).

Indeed, there are signs of cross-cultural tension in Hong Kong, accommodating the cultural influences of both the East and West (Redding & Baldwin 1991). Strategic networking can establish a connection between business people of different nations and cultures, stimulating trade that otherwise might not have taken place at all (Thorelli 1986). In particular, Hong Kong and the Western countries have similar characteristics and differences in how they manage strategic networks. Many Hong Kong firms incorporate a combination of Chinese and Western management philosophies into their



managerial practices (Enright, Scott & Dodwell 1997). Because of these cultural influences, it is important to take local cultural factors into account – namely, the influence of *guanxi* on business relationships (Humphreys, Shiu & Chan 2001).

To briefly conclude this sub-section, trust, commitment, reputation, communication, cooperation, risk management and *guanxi* are the essential antecedents for strategic networks in Hong Kong. These seven antecedents of strategic networking are the foundation for considering the intensity of collaborations within strategic networks in the next sub-section.

#### **2.4.2 Key concept two: intensity of collaborative relationships**

Together, the seven antecedents of strategic networking described above comprised the first key concept in this review. This sub-section explains the second key concept – intensity of collaborative relationships. Firms engage in partnering activities within a network, expecting that the outcomes exceed partnering with alternative available firms outside the network (Fontenot & Wilson 1997). In order to set up a network appropriately, firms ensure that the collaborations among network members are economically viable by efficiently co-ordinating the business system (Fontenot & Wilson 1997). Adopting strategic networking by investing in specific assets, expecting a long-term relationship and reducing the supplier base enhance the operation of firms, while at the same time avoid the inefficiencies of bureaucratic control mode seen in vertical integration. In turn, this study focuses on three constructs measuring the intensity of collaborations of strategic networks: asset specificity, relationship continuity, and size of supplier base.

##### **Asset specificity as the first construct of the intensity of collaborative relationships**

Asset specificity is the first construct of intensity of collaborative relationships. From a TCA perspective, asset specificity is termed as transaction-specific investment (Heide 1994), specific asset (Dyer 1996a; Dyer 1996b; Williamson 1985; Williamson 1991b), idiosyncratic investment (Anderson & Weitz 1992) and non-retrievable investment (Wilson 1995). These terms are used interchangeably, but the term ‘transaction-specific investment’, which is the investment specific to strengthening and maintaining a network relationship (Heide 1994), was used in this research.

Assets are economic resources that are expected to produce benefits in the future (Horngren, Harrison & Bamber 2005). TCA views asset specificity as the ‘degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value’ (Williamson 1991, p. 281). In this research, asset specificity refers to *the level of transferability of the investment that supports a given transaction without sacrificing its productive value* (Williamson 1985; Young-Ybarra & Wiersema 1999). For instance, an Asian manufacturer voluntarily committed a specific asset to a relationship with a US retailer, by building a plant to specifically produce a private label product for this retailer. This investment is dedicated specifically to a particular relationship and is not easily redeployed, so the value will be greatly diminished in alternative applications (Gundlach, Achrol & Mentzer 1995).

Indeed, transaction-specific investments create obstacles to abandoning a relationship, provide incentives to enhance long-term relationships (Anderson & Weitz 1992), and increase expectations of continuity (Heide & John 1990). In addition, transaction-specific investments create switching barriers to firms, due to the potential loss of an investment during the termination of a relationship (Wathne, Biong & Heide 2001). The party essentially reduces its ability to replace the particular exchange partner by dedicating assets, because the assets only can be used in that particular relationship (Wathne & Heide 2004). Therefore, firms tend to deal with relational suppliers, instead of a new one, because of the presence of transaction-specific investments (Jarillo 1988). In other words, when investments in transaction-specific assets increase, the bilateral dependency that exists between exchange partners increases.

***Dimensions of asset specificity.*** Three dimensions of asset specificity that can create bilateral dependency and affect a firm’s performance are identified: site, physical, and human asset specificity (Dyer 1996a; Dyer 1996b; Williamson 1979, 1985). First, *site asset specificity* refers to the distance between the various partner facilities. Successive production stages that are immobile in nature are located in close proximity to the partners, in order to improve co-ordination and economise on inventory and transportation expenses (Dyer 1996b). For instance, site asset specificity arises when the supplier locates his warehouses or assembly lines in proximity to the buyer’s plant (De Toni & Nassimbeni 2000).

The next dimension of asset specificity is *physical asset specificity*, which refers to specialised equipment that is needed to produce a component (Williamson 1991b). It allows for product differentiation and may improve quality by increasing product fit (Dyer 1996b). Finally, *human asset specificity* focuses on the degree of specificity in the skills, knowledge and experience of a firm's personnel in dealing with another firm in a vertical relationship (Zaheer & Venkatraman 1995). Human asset specificity also refers to specific know-how accumulated between partners through a long-term relationship (Dyer 1996a). For instance, human asset specificity involves the training of personnel, and the development of specific quality assurance practices or compatible procedures to meet a buyer's idiosyncratic requirements (De Toni & Nassimbeni 2000). These three dimensions of asset specificity are accumulated in the long run, and can enhance the development of strategic networks.

### **Relationship continuity as the second construct of the intensity of collaborative relationships**

Relationship continuity is the second construct measuring the intensity of collaborative relationships. An effective and ongoing relationship is a unique and inimitable asset, which is especially important when striving to develop a long-term network (Anderson & Weitz 1989; Chang 2001; Chen & Paulraj 2004; Dwyer, Schurr & Oh 1987; Gulati, Nohria & Zaheer 2000; Wilson 1995). Relational exchange theory advocates that older relationships involve less communication in a networking relationship, indicating that the parties have developed a good level of mutual understanding, and can predict each other's reactions and co-ordinate their respective activities (Anderson & Weitz 1989). Social capital theory suggests that buyer-supplier relationship development is an important approach when conducting business (Chen & Paulraj 2004; Theingi, Purchase & Phungphol 2008). Indeed, social capital can be derived from relationships embedded in strategic networks (Theingi, Purchase & Phungphol 2008).

Moreover, the expectation of continuity is a major concept in the development of a closer exchange relationship. Future interaction is expected by both the buyer and seller, and the continuity of the relationship can lead to closer relationships (Heide & John 1990). This continuity implies a long-term orientation between networked partners (Lusch & Brown 1996) and the anticipated duration involved in the long run, rather than a historical duration (Heide & John 1990). Therefore, a long-term relationship should be

intended (Chen & Paulraj 2004). In this research, relationship continuity is defined as the *perceived bilateral expectation of future interactions* (Heide & John 1990).

Essentially, maintaining continuity in a relationship involves a history of re-winning contracts (Dyer & Chu 2000). Repeat transactions are long-term and involve continued business interactions between two existing business partners (Wu & Choi 2004). Older and well-established network relationships can exhibit considerable inertia or a built-in tendency to continue. A long-term relationship can be stabilised and achieved by a high degree of compatibility via overtime adjustments and the elimination of unsatisfactory and unalterable past behaviours (Anderson & Weitz 1989). This is because parties in older relationships can predict one another's reactions and co-ordinate activities more efficiently, while, at the same time, require lower levels of communication than would typically be required in newer relationships. Indeed, a long-term oriented relationship maximises a firm's profits over a series of transactions (Ganesan 1994). When material purchasing becomes complicated, buyers and sellers begin to realise the benefits of more collaborative relationships, where the outcome can result in a win-win relationship for both parties (Dyer 1996a). Therefore, repeated exchanges are expected and exert a significant positive effect on long-term relationships (Dyer & Chu 2000).

***Phases of relationships.*** A buyer-seller relationship develops over a number of stages, from discrete exchanges to relational exchanges (Dwyer, Schurr & Oh 1987). The objective in networking relationships is to build, maintain and enhance the relationship in terms of achieving long-term profitability for parties involved (Grönroos 1994). Thus, a relationship development process generally evolves through four phases: exploration (search and trial), expansion (repurchase), maintenance (increased commitment) and termination (Batonda & Perry 2003b; Dwyer, Schurr & Oh 1987; Grönroos 1994; Jap & Ganesan 2000; Morgan & Hunt 1994; Selnes 1998).

*Exploration* is the beginning phase of relationship development, and involves a first-time purchase (Selnes 1998). It refers to firm's a recognition that a party is a feasible exchange partner (Dwyer, Schurr & Oh 1987). There is no commitment at this stage, as it only involves a search and trial for a potential partner. The exploratory relationship is fragile, in the sense that minimal investment and interdependence are needed, so termination can occur easily. Potential partners in this phase first consider the obligations, benefits and burdens of continued exchanges (Dwyer, Schurr & Oh 1987; Jap & Ganesan 2000).

During the second phase, relationship *expansion*, firms experience a continual increase in benefits and interdependence (Dwyer, Schurr & Oh 1987). This involves repetitive purchase decisions made by a buyer, as the buyer becomes familiar with its supplier. The buyer has to make a decision as to whether to continue the relationship based on the assessment of economic efficiency, fairness of past transactions, and satisfaction with the supplier. In this situation, the level of perceived risk and switching cost is relatively low, trust will be less important (Selnes 1998), and minimal commitment of resources is involved (Batonda & Perry 2003b).

During the third phase, relationship *maintenance* (Batonda & Perry 2003a), a close networking relationship is established through several repeated transactions between partnering firms. Parties gain experience and build trust by developing a long-term relationship (Batonda & Perry 2003a; Dwyer, Schurr & Oh 1987). During this phase, relational continuity between exchange partners is enhanced through interdependence and their commitment of resources into the network relationship. Because there has been the durability of the association over time, parties can bond themselves in such a way as to encourage their continued transaction-specific investments in physical assets, human assets and/or site assets, dedicated to the particular relationship (Batonda & Perry 2003a; Dwyer, Schurr & Oh 1987; Selnes 1998). Buyer-seller relationships among firms in a strategic network are assumed to have been established over time. Thus, long-term strategic networking should occur within this stage (Selnes 1998).

In the last phase, termed relationship *termination*, at least one party starts experiencing dissatisfaction (Jap & Ganesan 2000). Firms start to consider the cost associated with switching to alternative partners and develop strategies to dissolve the relationship mutually (Batonda & Perry 2003b; Selnes 1998). In this research, only the relationship maintenance stage was assessed.

### **Size of supplier base as the third construct of the intensity of collaborative relationships**

The last construct used to measure the adoption intensity of a strategic network is the size of the supplier base. It is natural to start with the principle that a firm should benefit from increasing its number of suppliers, thereby widening the range of its choices. For instance, the traditional purchasing goals of firms in the United States largely rely on maintaining power and resources, in order to minimise price; for this reason, managers in the US maintain a large supplier base and frequently rotate purchases across suppliers (Dyer 1996a).

However, this number is limited by organisational and technological considerations, such as the costs associated with setting up a relationship, search costs, and transaction costs (Bakos & Brynjolfsson 1998). Also, if alternative suppliers are numerous and easily obtainable, the rejection of a firm's control could lead to the termination of its relationship with the supplier, which would not incur a heavy penalty for the firm (Bucklin 1973). In response to the changing global environment, companies now prefer to reduce the number of collaborative suppliers they deal with, especially those who provide material that have a significant impact on the quality of their final product (Tan, Kannan & Handfield 1998; Theodorakioglou, Gotzamani & Tsiolvas 2006). In this way, companies can better manage their relationships with their networked suppliers. For instance, *Luen Thai*, one of the largest clothing manufacturing firms in Hong Kong, concentrates on only four major fabric suppliers. It develops few, but deep relationships, making trust an important criteria between it and its suppliers (Kahn 2004). In sum, for our purposes here, the size of the supplier base refers to *the reduction of supplier size that increases the efficiency of a buying firm to perform a particular activity and to the establishment of longer term supplier relationships* (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005).

***Benefits of decreasing the number of suppliers.*** A strategic supplier network is defined as an established long-term relationship between an organisation and its suppliers (Li et al. 2006). It is intended to leverage the strategic and operational capabilities of individual organisations and facilitate them achieving enduring benefits (Li et al. 2006; Monczka et al. 1998). The long-term nature of relationships encourages mutual

planning and problem solving. Firms that have networks with a few important suppliers work more effectively, as the suppliers are willing to share responsibility for the success of the products. Therefore, reducing the size of supplier base is a leading factor in the establishment of longer term supplier relationships (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005).

Reducing the number of suppliers and allocating a majority of the purchased material requirements to a smaller base provides three benefits. First, quantity discounts are given to buyers if buyers consolidate the volume or purchase order into a small number of suppliers (Chen & Paulraj 2004). Second, decreasing the number of suppliers by the buying firm could increase the incentives of each remaining supplier to make non-contractible investments. Then, suppliers will have higher expectations of continuing a long-term business relationship. Also, suppliers have the *ex ante* incentives to make specific non-contractible investments in the relationship, only when suppliers' sharing in marginal returns of investment in *ex post* bargaining is guaranteed. Non-contractible supplier incentives are the investments that benefit buyers which are not contractually specified in contracts, such as innovation, information sharing, adoption of new technology, quality, trust, flexibility and responsiveness.

In this way, the third benefit of decreasing supplier size is that the networked supply partners, who potentially need aggressive bargaining and monitoring, are less likely to practise opportunistic behaviour. A buying firm that reinforces its bargaining power by contracting with numerous potential suppliers may diminish the incentives of the suppliers to make non-contractible investments. As a result, it may be optimal for a firm to transact with fewer suppliers. Consequently, many firms dedicate their efforts to major suppliers and enjoy improved performance (Bakos & Brynjolfsson 1998).

In conclusion, strong strategic networking is needed as transaction-specific assets can safeguard the network relationship; a continued relationship enables effective transactions; and managing a small number of suppliers helps to stabilise network relationships. Jarillo (1988) argues that establishing an efficient network implies the ability to lower transaction costs. The high intensity of collaborative relationships may reduce transaction costs. In the next sub-section, the transaction costs of strategic networking are discussed.

### 2.4.3 Key concept three: transaction costs

The final of the three concepts used to structure this literature review is *transaction costs*. A successful strategic network lowers transaction costs (Chang & Harwood 2001; Heide & John 1990; Jarillo 1988, 1993; Macneil 1981; Noordewier, John & Nevin 1990; Williamson 1979, 1985; Williamson 1991b). Over the past decade, a considerable amount of research has been conducted into the influence of transaction costs on long-term relationships (Wu & Choi 2004). The TCA proposes that relational contracting is the most appropriate governance form of a buyer-supplier exchange (Williamson 1985; Williamson 1991b).

Transaction costs exist in strategic networks between network members, in the form of continuous searching, contracting, monitoring and enforcement. When conducting business exchanges, transaction costs are presented, so transaction costs are seen as a factor of production. Under TCA, managers are solely motivated by economic efficiency. Managers will select the least costly governance structure (that is, the market, vertical integration or strategic network) with the combined effects of transaction and production costs (Williamson 1985). More specifically, transaction costs concern all the costs associated with exchanges between firms (Dyer 1997; Dyer & Chu 2003; Williamson 1985; Williamson 1991b), including costs of negotiating, implementing, coordinating, monitoring, adjusting, enforcing and terminating exchange agreements (Campbell 1992; Frazier, Spekman & O'Neal 1988). Therefore, the term *transaction costs* are defined as the *costs of running the contractual relationship for current purposes* (Macneil 1981), a definition that is most suitable for this research. As explained in Sub-section 2.3.1, in different modes of interorganisational relationships, with the presence of inevitable costs of transactions, firms must choose the most efficient form of interorganisational relationship, that is, a strategic network, in order to lower these costs.

***Dimensions of transaction costs.*** Transaction costs can be divided into *ex ante* (that is, search and contracting costs) and *ex post* (that is, monitoring and enforcement costs) transaction costs (Dyer 1997; Dyer & Chu 2003; Williamson 1991b). *Search* costs are the costs incurred when gathering information so as to locate, recognise and evaluate desirable trading partners (Dyer 1997). Supplier selection for specific materials is a critical decision for many manufacturing organisations. Firms invest time and effort in



the supplier search process, because since supplier performance has direct impact upon business performance (Chen & Paulraj 2004; Hutt & Speh 2003). Practitioners first should create a list of potential suitable suppliers (Stump & Heide 1996). This concerns manufacturers' *ex ante* efforts to critically evaluate a supplier's abilities and qualifications. The process involves evaluation in areas such as product quality, delivery, and manufacturing, human resources, and performance history (Dickson 1966). These efforts are crucial in the prevention of delivery and quality-related problems. After searching suitable suppliers for materials, another *ex ante* transaction costs – the costs of making contracts with these suppliers – is required. *Contracting* costs include costs associated with negotiating and writing a mutually-acceptable agreement (Dyer 1997). Contracting costs stem from the inability of firms to specify contingencies fully in a contract (Williamson 1985). Therefore, such costs also include the effort required to arrive at agreements about the distribution of costs and benefits (Zaheer, McEvily & Perrone 1998).

Moreover, there always are uncertainties related to violation of a legal contract by either partner. In order to stabilise the network relationship, monitoring actions are performed. The *ex post monitoring* costs relate to monitoring the agreements and ensuring that each exchange partner performs according to a predetermined set of obligations (Dyer 1997). However, if partners do not meet required standards, other *ex post* transaction costs – enforcement costs – are involved. *Enforcement* costs include the costs related to actions taken to ensure the each partner performs according to the predetermined agreement (Dyer 1997; Dyer & Chu 2003). These costs also involve *ex post* bargaining and sanctioning costs when a partner does not adhere to the agreement. Indeed, when the business environment is complex and uncertain, the transaction costs of negotiating and enforcing long-term contracts are high, due to the difficulties involved in specifying all obligations under all contingencies in a contract (Williamson 1985).

To illustrate the transaction costs of business exchange, managers should make a decision regarding what types of inspection the incoming material requires before a purchase order is issued. Then, contracting costs are required to determine inspection standards, ranging from a supplier's manufacturing operations, production capacity, financial strengths, personnel, and research and development capabilities. The inspection is used to ensure that the supplier meets the specification requirements in the monitoring process, such as arranging a quality controller to inspect the supplier's

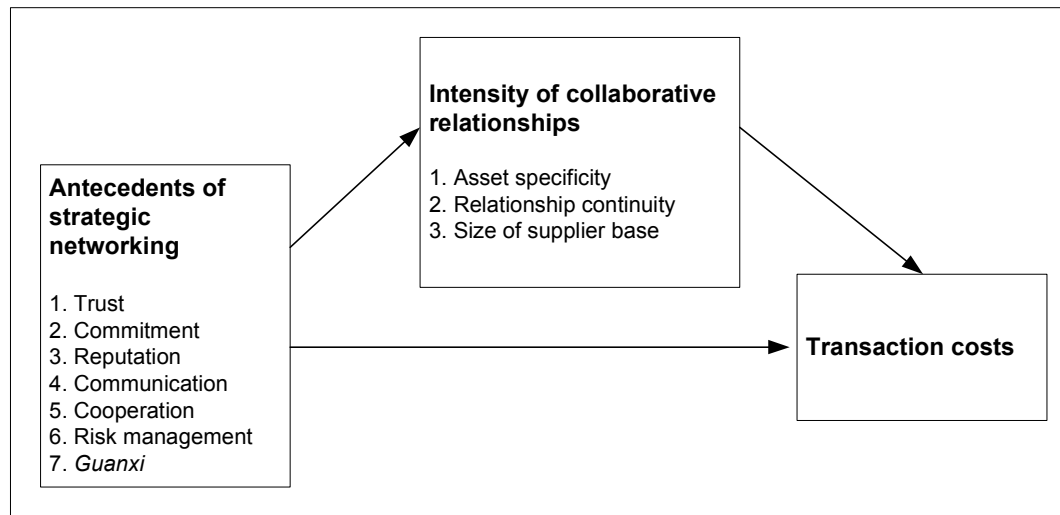
factory. If the supplier has been identified as qualified in the searching process, it is likely that less inspection will be required. If not, transaction costs increase from the monitoring process itself (Burt, Dobler & Starling 2003). Therefore, a considerable amount of effort should be undertaken by manufacturers to evaluate a supplier's ability to execute the original agreement (Heide & John 1990).

In sum, this section reviewed focus theory, including three key concepts used to structure this research. The first key concept discussed was the antecedents of strategic networking, which include seven constructs (trust, commitment, reputation, communication, cooperation, risk management, and *guanxi*). The second key concept was the intensity of collaborative relationships, which includes three constructs (asset specificity, relationship continuity, and size of supplier base). The last construct was transaction costs. Each of these concepts was defined for this research. In the next section, the development of a preliminary theoretical framework is described.

## 2.5 Developing a preliminary theoretical framework

In this section, a preliminary theoretical framework, including the above three key concepts was developed. As depicted in Figure 2.3, these three concepts with 11 constructs are embedded in the networking model. They are the antecedents of strategic networking, which include the seven constructs – trust, commitment, reputation, communication, cooperation, risk management and *guanxi*; intensity of collaborative relationships, including three constructs – asset specificity, relationship continuity, and size of supplier base; and transaction costs. Links were developed to illustrate the interrelationships that exist between these 11 constructs. This model proposes that transaction costs can be reduced through the involvement of trust, commitment, communication, cooperation, and mutually supportive *guanxi* relationships between buyers and suppliers, buyers' reputation and risk management. Meanwhile, investment in specific assets, expectations of a long-term relationship and reduction in the size of one's supplier base are critical to reducing transaction costs. This model illustrates how these constructs strengthen buyer-supplier relationships and foster the maintenance of long-term strategic networks. Such a networking model may have the potential for further applications in managerial planning and decision-making in other industries, where strategic networking is prevalent. However, this is just a preliminary framework; a more comprehensive framework is developed in Chapter 4, requiring a case study, as explained in Chapter 3.

Figure 2.3 Preliminary theoretical framework for collaborative strategic networks



Source: developed for this research.

## 2.6 Chapter conclusion

This chapter reviewed the extant literature related to the theories of strategic networking and the development of a preliminary theoretical framework. First, relationship marketing and strategic network were introduced. Second, the literature on parent theories related to strategic network – transaction cost analysis, relational exchange and social capital – were described. Then, the focus theory concerning antecedents of strategic networking, intensity of collaborative relationships and transaction costs were discussed. In particular, this research represented an initial attempt to include aspects of Asian culture, especially *guanxi*, in the study of strategic networking concepts within one globalised industry – the Hong Kong clothing industry. The representative scholarly literatures for the above constructs are shown in Appendix 2.1.

Although a considerable body of networking literature exists, describing each of the above constructs and analysing the effects of networking activities on transaction costs, little empirical research has been done attempting to trace the links from the antecedents of strategic networking, especially *guanxi*, to the intensity collaborations of strategic networks and transaction costs simultaneously, with the integration of theories in transaction cost analysis, relational exchange and social capital, together with cultural influences in China. Accordingly, case research relating to this framework is provided in the next chapter. Through the literature reviewed in this chapter and the case research

outlined in the next chapter, this research attempts to take a step towards developing a comprehensive framework for a whole picture of strategic networks, precisely within the context of strategic networking in the Hong Kong clothing industry, as discussed in Chapter 4.

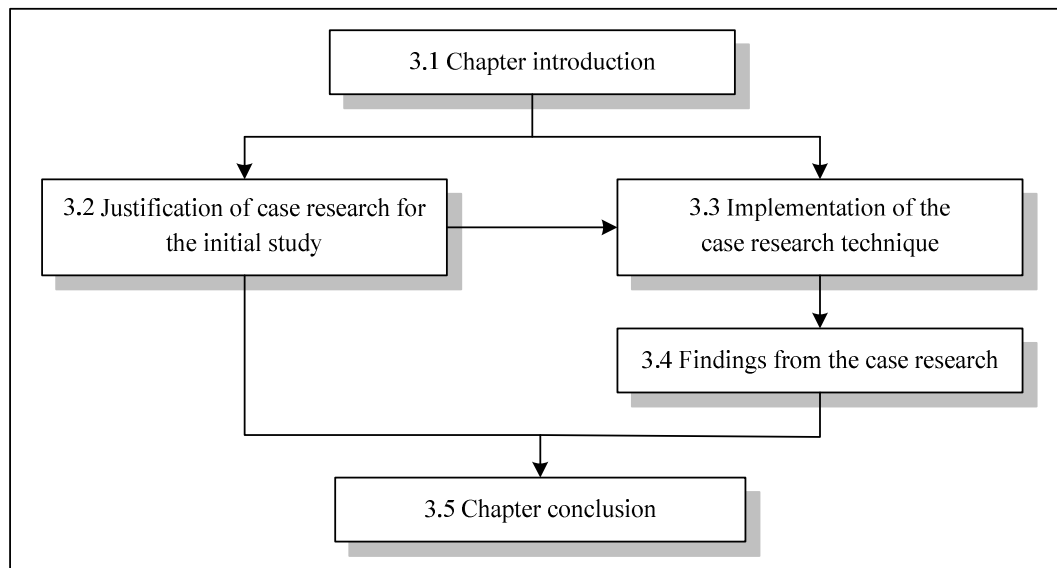
## *Chapter 3 Study one: case research methodology and data analysis*

### **3.1 Chapter introduction**

In the previous chapter, the strategic network-related literature was reviewed and a preliminary theoretical framework was developed. This chapter describes a qualitative methodology used in Study One. A comprehensive framework based on the results found in this stage will be developed in the next chapter.

This chapter has five sections (Figure 3.1). Section 3.1 introduces the flow of this chapter. Section 3.2 describes the rationale and justification for the use of case research as the first stage of the data collection procedure, and Section 3.3 explains the case research method. Finally, the data collected are analysed and interpreted in Section 3.4 and the chapter concludes in Section 3.5.

Figure 3.1 Outline of Chapter 3, with section numbers and interrelationships



Source: developed for this research.

### 3.2 Justification of case research for the initial study

This section justifies the selection of case research for Study One by comparing its strengths and limitations with those of other techniques.

The case research methodology states the research problem (Carson et al. 2001), and uses interviews to test a body of knowledge (Yin 1994). In this research, the research problem is '*How does strategic networking between buyers and suppliers reduce transaction costs?*' Case research can be utilised to study decisions, programs, implementation processes, and organisational change (Yin 1993). It was appropriate for this initial study because this study is in the middle part, involving the uses of both induction (exploratory) and deduction (confirmatory). In this case research, the data collected can be analysed based on the theoretical framework originally derived from prior theory in the literature and comprised of the specific clothing industry in the exploratory stage of research (Carson et al. 2001). The events under study were contemporary, situated within a culturally thick context, and had boundaries that were uncertain and required multiple sources of data (Carson et al. 2001; Perry 1998; Stokes & Perry 2005; Yin 1994). Therefore, the case research method, which is ideal for studying co-operative relationships (Smith, Carroll & Ashford 1995), was adopted in the initial stage of this study.

This approach was chosen over other qualitative research methodologies to investigate the strategic network practices of Hong Kong clothing manufacturing companies in collaboration with fabric suppliers. Convergent interviewing was not appropriate for this research because it is intended for interpretive research and involves a cyclic series of in-depth interviews with experts that allows the researcher to refine the questions after each interview (Dick 1990). This method was rejected because too much expense and time are required to consider all the information collected. In addition, the results might be biased because the interviewer is part of the data collection process (Carson et al. 2001).

Moreover, a focus group was not appropriate for the initial stage of this research because the information was collected through group interaction involving several respondents (Carson et al. 2001). Data from group interaction were not required for this research. Entrepreneurs in the group might be reluctant to express their opinions on

their success factors because their companies might be rivals. In brief, the case research method offers advantages over convergent interviews and focus groups, so it was chosen for the initial stage of this research.

Although case research method is not sufficient to gather the results that can be used to generalise to the wider population, this limitation was overcome by conducting a second study, which will be elaborated on in Chapter 5.

### **3.3 Implementation of the case research technique**

This section explains how the case research method was implemented. To collect data, loosely structured, direct and personal conversations were conducted with target respondents. Insights and hidden issues about a research topic can be explored from these in-depth interviews (Malhotra 2002) in order to probe the initial responses, resolve ambiguities and work through a respondent's reticence (Yin 1994).

Researchers strive to generalise a set of findings to some broader theory by adopting a case research approach (Yin 1994), which is a theoretical rather than a statistical generalisation (Yin 1994). The goal of this research was to expand and generalise theories rather than statistically enumerate their frequencies, so a series of questions eliciting interviewees' opinions on strategic networks was developed.

The validity of this approach was enhanced by using multiple sources of evidence (Yin 1994) and not relying solely on interviews with managers in the industry. In this research, a triangulation of sources was used for data collection, consisting of face-to-face, in-depth interviews, Internet sources, magazines, newspapers and annual reports (Patton 2002).

#### **3.3.1 Objectives of the case research**

The preliminary theoretical framework developed in Sub-section 2.5 (Figure 2.3) was derived from the literature, most of which was based on theoretical assumptions. Yet, how appropriate is the application of that framework to the clothing industry? The aim of this case research is to confirm the constructs that can affect the success of strategic networks in the clothing industry. The researcher interviewed representatives of seven Hong Kong clothing manufacturers. This study consolidated information about the ways

in which strategic networks with competent suppliers enhance the competitiveness of the clothing manufacturing enterprises. Such information was used to create a comprehensive theoretical framework and formulate three hypotheses, which are presented in Chapter 4. The objectives of the case research are:

- to investigate current practices of strategic networking in Hong Kong's clothing industry,
- to confirm the antecedents of strategic networking in the West in addition to one special antecedent in the China to develop an effective strategic network,
- to investigate the extent and intensity of firms' collaborations with network members,
- to identify the transaction costs involved in the industry,
- to identify operational items in each construct specific to the industry for questionnaire design, and
- to provide the foundations for a theoretical framework.

In order to distinguish themselves in a competitive market, firms have to deploy networking strategies to reduce transaction costs and sustain long-term relationships with competent suppliers. However, do these assumptions also apply to clothing firms in Hong Kong that adopt an Asian, or more specifically a Chinese, business culture, one in which *guanxi* is prominent and can determine the success of a strategic network? In this regard, five case research questions about strategic network practices in the Hong Kong clothing industry were developed for investigation. They were related to the case companies' perception of the adoption of strategic networking and to their views of the preliminary theoretical framework (Figure 2.3, p. 67). The five research questions were:

**CRQ 1:** How do the clothing manufacturers in Hong Kong perceive strategic networks?

**CRQ 2:** What are the major antecedents of successful strategic networking in the Hong Kong clothing industry?

**CRQ 3:** Do the clothing companies adopt *guanxi* to maintain and sustain good strategic network relationships with their fabric suppliers?

**CRQ 4:** How do the clothing companies in Hong Kong adopt collaborative relationships with their fabric suppliers?

**CRQ 5:** What are the transaction costs for a clothing manufacturer in Hong Kong that is involved in networking relationships with its fabric suppliers?



### 3.3.2 Selecting cases

The main advantage of using qualitative methods in the research design is that a small and selected number of respondents is required. The information gained may reveal crucial insights about the industry (Birtwistle 2001). The selection of an optimal number of cases depends on what is being studied and why, how the findings are to be applied and the resources that are available to the researcher (Patton 2002). To increase heterogeneity, this research selected a small but diverse sample of practitioners, who were qualified to assess the strategic networks between their organisations and suppliers. Therefore, a *purposeful* rather than a random method is more appropriate in this case research (Patton 2002). Seven clothing companies were selected; this is within the recommended case range of four to eight (Carson et al. 2001; Eisenhardt 1989; Perry 1998; Stokes & Perry 2005). The selected companies were large and well-known for their devotion to strategic networking.

A single respondent from each company was chosen. Although responses from multiple respondents within each company would have been preferred, the respondents had to be in a position to make this assessment. In this study, the selection of the respondents was based on the following two criteria. First, the interviewees had to have been employed at their companies for at least two years and therefore they had a history of working with their suppliers. Second, they were required to have primary responsibility for managing the daily operations with suppliers. They had experience in managing network relationships with suppliers. Thus, each interviewee was in the right position and had a thorough understanding of the phenomenon being studied.

### 3.3.3 Procedures for conducting the in-depth interviews

E-mails requesting interviews (Appendix 3.1) were sent to the top executives of these companies and follow-up phone calls were made to confirm the meetings. The interviews started with an introduction of the purpose of the research, followed by a discussion of ethical concerns to ensure informed consent (Carson et al. 2001). A list of predetermined broad questions was set for the interviewer to follow (Appendix 3.2). *Reliability* was enhanced by using an interview protocol that outlined the standard questions for all cases. Each interview began with thanks, introduction, discussion of the objectives, agenda and ethical issues before the questions were asked (Carson et al. 2001). In the beginning of each interview, the interviewees were asked general questions,

like ‘Would you please tell me how you develop and manage network relationships with your suppliers?’

After these general questions have been answered, narrower and more probing questions, developed from the literature, were asked. Examples of these questions are ‘How do you define strategic networks?’ ‘What is your strategic network plan for the next three years?’ However, these questions were not asked in a fixed order but inserted into the conversation in the course of the interviews (Batonda & Perry 2003a). As a result, the interviewees could freely give their own opinions and insights into the research questions. With the interviewees’ permission, the conversations were tape-recorded for later transcription. Clarifications were made by follow-up phone calls whenever necessary. Additional sources of data were used to provide a complete picture of each case (Section 3.3).

#### **3.3.4 Analysis procedures**

After interviewing the seven executives from the industry, the qualitative data were analysed using content analysis (Carson et al. 2001), which is ‘the objective, systematic, and quantitative description of the manifest content of a communication’ (Malhotra 2004, p. 189). Content analysis is based on the theory that the repetition of certain elements of discourse (words, expression or similar meanings) reveals the research context (Thietart 2001) rather than observation-based field notes (Patton 2002). It is used to ‘refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative materials and attempts to identify core consistencies and meanings’ (Patton 2002, p. 453). In the coding process, the discourse or text is broken down into units of analysis and assigned to categories that are defined by the context of the research. This coding method interprets the presence or absence of a category. Then, word frequency is analysed (Thietart 2001). In addition, quotations from the interviews were used to support data interpretation and to justify conclusions drawn from the comparison of the cases (Perry 1998).

#### **3.3.5 Limitation of in-depth interviews in this study**

There was one unavoidable limitation to the use of interviews. Top executives in the clothing industry are busy, so they tended to be reluctant to participate in academic research (Moon 1999). Some interviewees were annoyed by the length of the interviews.

Therefore, in some interviews, only the core questions were asked.

### **3.4 Findings from the case research**

This section describes the profiles of the interviewed firms and the interviewees, and discusses the findings of each construct.

#### **3.4.1 Profiles of the interviewed firms and interviewees**

To minimise extraneous variation of respondents, the selected companies came from a single industry (Eisenhardt 1989) – clothing manufacturing companies in Hong Kong. One criterion for inclusion in the sample was that the network has ongoing activities and interactions among the networked partners. This avoids the choice of interviewed firms that only networked for a single event or whose partners come from the same company (Human & Provan 1997). Moreover, data, such as years in business and annual sales turnover of interviewed firms, were gathered from the Internet, annual reports, and interviews. Profiles of the responding companies and interviewees are shown in Table 3.1.

All these interviewed firms had well-established supply networks. Each firm had developed a professional network management team to manage network operations with its trading partners. They were all wholly Hong Kong-owned companies with core businesses in manufacturing, design and product development, sourcing, or exporting. They had been established for 19 to 98 years and had annual sales turnovers ranging from US\$100 million to US\$5.5 billion in 2003/04. Their major markets were the United States, European Union, China, Japan and Australia.

All of the interviewees were CEOs, directors, general managers, or merchandising managers. Although the interviewees had different job titles, they had had dealings with networked suppliers. Each of them had more than five years of managerial experience in merchandising, sales and marketing, or corporate development. They had managed network relationships with their suppliers. Hence, the reliability of the findings could be guaranteed and justified.

Table 3.1 Company profiles of the case research stage

<b>Responding companies</b>	<b>Company A</b>	<b>Company B</b>	<b>Company C</b>	<b>Company D</b>	<b>Company E</b>	<b>Company F</b>	<b>Company G</b>
<b>Company profiles</b>							
Years of establishment	19 years	98 years	28 years	57 years	39 years	52 years	20 years
Annual sales turnover in 2002/3	US 100 million	US 5.5 billion	US 193 million	US 595 million	US 500 million	US 860 million	US 120 million
Total employees	170	6 000	20 000	22 000	20 400	23 000	12 000
Business nature	Clothing manufacturing, trading, design and product development, sourcing and agency service	Clothing manufacturing, trading, retailing and distribution	Clothing manufacturing	Clothing manufacturing	Clothing manufacturing, design and development, logistics and IT services	Clothing manufacturing, design and development	Clothing manufacturing
Major markets	United States, European Union, China, Australia	United States, European Union, others	United States, European Union, Japan	United States, European Union, Asian countries	United States, European Union, Japan, others	United States, European Union, others	United States, European Union, Japan
<b>Interviewee profiles</b>							
Job title of interviewees	Merchandising manager	General manager	Deputy general manager	Senior manager	Vice president	CEO	Director
Years of working in the company	11 years	5 years	8 years	Over 10 years	5 years	28 years	20 years

Source: analysis of case research data.

### 3.4.2 Findings of the five research questions

This sub-section describes the findings for each of the five research questions: (1) perceptions of strategic networks in the clothing industry, (2) antecedents of strategic networking in the Hong Kong clothing industry, (3) influence of *guanxi* in network relationships, (4) intensity of collaborative relationships, and (5) transaction costs.

#### CRQ 1: perceptions of strategic networks

The perceptions of strategic networks were considered first. Companies interviewed were large and well known for their devotion to strategic networking. It is not surprising that most of the responding companies had targeted expansion in strategic networking in their three-year management plans. That is, all cases were developing a wider strategic network because this was a good way to increase their competitiveness. The representative of Company G claimed that:

[...] We always strive for developing strategic networks with competent suppliers because it is a way to improve production efficiencies and competitiveness in the market.

Most of the interviewees explained the meaning of strategic networking in areas related to competitiveness. Their explanations were compatible to the one defined in Chapter 2 (Sub-section 2.3.1). For example, the manager of Company D defined a strategic network as a system linking each strategic partner within a supply pipeline, which could improve competitiveness. His definition was:

[...] A system within which it tries its best to provide customer benefits in terms of organising, leading and improving customers' product development, purchasing and manufacturing.

A representative of Company A explained how his company gained cost and delivery competitiveness from strategic networks:

[...] Our company focuses on reducing costs and overall process lead times in every step from raw material sourcing, production and product clearance at customs to distribution.

The vice president of Company E agreed that there were benefits to be gained from strategic networks and indicated that choosing strategic networking as a form of organisational relationship with suppliers had been a sensible one:

[...] My company recognises that strategically network with suppliers is a suitable business operation mode, so we choose to develop relationships with suppliers instead of backward

integrating ourselves into the supply operations. We partner with large-sized fabric and accessory suppliers and increase the quantity of business orders with them through long-term collaboration. In turn, suppliers could increase their attention to us and perform better. Consequently, trust builds, and in turn, the relationship improves, resource commitment is more secure and overall transaction costs are lowered.

The findings showed that networks were widely established among the seven companies. In brief, the strategic networks were active in the Hong Kong clothing industry and interviewees believed that these networks of suppliers enhanced their competitiveness. In addition, the supplier networks were well-developed and maintained, and the relationships were stable and long-term.

### **CRQ 2: antecedents of strategic networking**

Interviewees were asked to identify and comment on antecedents that were necessary for the success of strategic networks. Across the seven cases, commitment, trust and reputation were identified as the major antecedents of strategic networking, while communication, cooperation and risk management were less important. The interviewees also evaluated the importance of the three confirmed antecedents of the establishment of networks with their strategic suppliers (Tan 2001; Tan, Kannan & Handfield 1998). Perry (1998) suggested that interview protocols include Likert-scaled questions, ranging from ‘strongly agree’ to ‘strongly disagree’, elaborating on the interviewee’s perceptions of the issue addressed in each question and a summary of the response. Thus, findings from Likert-scaled questions can assist in the writing of the data analysis chapter of a thesis (Perry 1998). In this study, mean values were used to prioritise the importance of the antecedents (Table 3.2). Detailed discussions of interviewees’ insights on the three antecedents of strategic networking in the Western context are reported in the following parts.

Table 3.2 Mean values for the degree of importance of the three antecedents of strategic networking in the Western context

<b>Antecedents of strategic networking</b>	<b>Mean</b>	<b>Standard deviation</b>
Commitment	4.4	0.894
Trust	4.2	0.837
Reputation	4.0	0.707

Note: degree of importance (with 1=extremely unimportant and 5=extremely important)

**Commitment.** Commitment was deemed to be the most important antecedent of strategic networking (mean = 4.4). In all cases, interviewees reported that their suppliers accommodated the needs of their companies by taking actions such as adjusting the requirements for raw materials. Companies B, D and F stated that their suppliers tailor-made products for their customers, for instance by developing specific multi-functional fabrics. All interviewees reported that their suppliers rearranged production schedules when lead time was short, or when the production schedule was tight. In addition, the manager of Company C said that the company would be likely to continue the relationship with their suppliers if their suppliers were also committed to the relationship:

[...] Our suppliers have strong commitment as they adjust their machines to satisfy our individual needs. In return, we show our informal commitment by implicitly promising our next orders would be given them. If the suppliers performed well, we will be more likely to increase the quantity for the next order.

In addition, interviewees agreed that their suppliers concerned about their business. According to interviewees of Company C:

[...] Suppliers always concern our business goal, business direction, customer requirements and performance. They really care about our business success.

Clearly, suppliers' commitment was present in their networks. In addition, most interviewees agreed that they had made commitments to their suppliers in some situations. For instance, most interviewees were committed to the relationships with suppliers by arranging their production schedule to fit suppliers' constraints. For example, the interviewee from Company G stated that they adjusted their production specification when suppliers could not meet their requirements:

[...] If our suppliers cannot produce fabric according to our fabric specification, we can help them by explaining the situation and persuading customers to accept the change in specification such as the composition and weight of fabric. However, the customer is still the main decision maker and customer standard is always the most important part of consideration.

In brief, both interviewees and their suppliers were committed to the networking relationships and interviewees agreed that such commitment was important in networking relationships with suppliers.

**Trust.** The second identified antecedent of strategic networking was trust. The results indicated that interviewees believed that trust in suppliers could affect the success of strategic networks (mean = 4.2). Without trust, companies had to spend more time monitoring suppliers' performance, thus increasing transaction costs (Dyer & Chu 2003). All interviewees agreed that their suppliers were trustworthy and reliable. Most of them reported that they had been fairly treated by suppliers during negotiation. However, some interviewees hesitated to entrust a purchasing order to their suppliers if the material specifications from them were vague. For example, the manager from Company D reported that:

[...] I have confidence that our suppliers would fulfil their promises. However, when I doubt that suppliers have the ability to produce the fabric that meet customers' requirement, I will hesitate to commit a purchasing order to our suppliers at an earlier stage.

In turn, all interviewees stated that they were also trusted by their suppliers as they kept promises and were honest. They believed that mutual trust existed in their continued relationships with suppliers. For example, the respondent of Company F stated that their company had developed a longstanding relationship with suppliers, so they were sure that they could be trusted in times of trouble. The respondent from Company G further explained that his company was honest with its suppliers:

[...] I have a sense of responsibility in keeping promises to my suppliers and I am definitely honest with them because I believe that trusting our suppliers can help us reduce transaction costs.

According to the respondent from Company C, their company kept their promises because they trusted their suppliers:

[...] We always keep promises and provide reliable information to our suppliers because we trust them. Because of that trust, the effort of resolving disputes and negotiating on contract terms with them was less.

A trusting relationship was developed between manufacturers and their suppliers, so manufacturers' transaction costs of contracting and bargaining on their suppliers could be reduced. Therefore, the greater the trust, the less the transaction costs. In brief, manufacturers and suppliers in network relationships trusted each other.



However, the interviews revealed that trust was negatively related to the size of supplier base. The interviewee from Company C agreed that the greater the trust, the smaller the supplier base. For example, as an interviewee of Company C stated:

[...] We trust our suppliers on their fabric quality in making sample fabric, producing bulk product and on the timely delivery. As our suppliers are reliable, we prefer to focus on a small number of strategically important suppliers and give them larger purchase orders in order to reduce monitoring costs.

This explanation showed that trust was negatively associated with the number of suppliers.

***Reputation.*** The third identified antecedent of strategic networking was reputation (mean = 4). Suppliers' reputation for fairness could enhance the effectiveness of manufacturing firms doing their businesses with suppliers. The reputation of both suppliers and interviewed firms was reported. First, the five companies under study believed that they could consistently provide valuable long-term investments for the company. The director of Company G emphasised the long-term view of returning value to the company:

[...] My company always use our profits to invest back to the equipment so as to continuously add value to products. We also invest in our employees such as by providing training programs or providing funding for them to further improve their skills or techniques on clothing production.

Second, all interviewed firms expected to attract the best suppliers in the industry because of their good reputation in the clothing industry and large purchase orders given to networked suppliers. For instance, the interviewee of Company E emphasised the benefits of reputation:

[...] Our companies can reduce costs in searching suitable suppliers and easy to keep and attract good suppliers because we are reputable in the industry.

As suppliers of the responding companies were also highly reputable and sizable, the responding company invested less in searching for alternative suppliers. Interviewees were more likely to have future business with their current suppliers and consequently stabilise their relationships.

Some interviewees suggested that the good reputation of their companies in the industry led to the need for a larger supplier base. The interviewee of Company F suggested that they did not spend substantial investments searching for new suppliers:

[...] As our company purchase large amount of fabric in different varieties from suppliers, we do not rely on a single supplier. We have developed multiple sources of supply in order to reduce the risks.

A company that has a good reputation in the clothing industry can surely attract the best fabric suppliers. Therefore, the reputation of a buying firm is positively associated with the size of its supplier base.

Some interviewed firms agreed that they were regarded as one of the most attractive clothing suppliers to existing and potential customers because of their connections with suppliers. Moreover, four companies thought they had the ability to influence developments in the clothing industry. The senior manager at Company D stated that his company established a successful EDI system that led the way in enhancing the efficiency of daily operations:

[...] Our company can automatically handle orders and shipping information with the application of EDI. The delivery accuracy has been improved to 100 per cent by minimising human error in entering data. We think we take a pioneering role in adopting a new technology that is effective and helps to reduce costs significantly.

Finally, the vice-president of Company E believed that he could improve the level of social responsibility in the clothing industry:

[...] We are concerned about social responsibility for our employees in terms of safety issues, such as lights, toilet and ventilation in the working environment. We aim to provide a clean and safe environment and guidelines for our factories, in which we have reached the Worldwide Responsible Apparel Production (WRAP) global standards for human rights compliance. We hope that this healthy mechanism can be spread to the whole industry.

In brief, reputation of both the interviewees and their suppliers in the industry was high, which fastened the transaction processes between manufacturers and suppliers, so the ongoing manufacturer-supplier relationships were enhanced.

To conclude, successful strategic networks were established between responding companies and their suppliers. In addition, commitment, trust and reputation were found to be the major antecedents in establishing strategic networking and to have positive effects on the strength of these networking relationships. Contrary to expectation, interviewees did not consider communication, cooperation and risk management as important antecedents in their business practices. Interviewees revealed that these three antecedents were unimportant in their network collaborations with suppliers.

**Communication.** Communication was not recognised by interviewees as an important antecedent of successful networks because advances in information technology have made it possible for network partners across the globe to communicate rapidly and seamlessly (Shapiro 2004). The use of lower cost devices such as the Internet can significantly lower communication costs (Ragatz, Handfield & Scannell 1997). Then, networked partners get to know each other through frequent communication and information exchange, which could result in the continuance of relationships. However, the interviewee of Company E expressed scepticism about the usefulness of information exchange:

[...] The importance of exchanging information is doubtful, because of the simple handling procedures and short time period involved in purchasing widely used fabrics.

This interviewee added that the company did not provide confidential information to suppliers. According to the respondent of Company E:

[...] Manufacturers do not necessarily share proprietary information with suppliers, such as customer requirements and market price of fabric, as well as core business knowledge such as fashion trends.

Sharing such information is meaningless when common fabrics are purchased. Therefore, exchange of information was perceived as unimportant if not useless in the clothing industry. In addition, communication was routine and standardised in daily operations, so it was not an important antecedent to successful networks. The representative of Company F claimed that communication with suppliers was standard procedure:

[...] The time spent on communicating with different suppliers is almost the same because the procedure and time allocated to the suppliers in daily operations standardised, such as sending emails and using telephone contacts.

**Cooperation.** None of the interviewees cooperated with suppliers through joint activities, such as fashion trend forecasting and new fabric development, because these activities were not common in the industry. Interviewees always did the forecasting strictly within their companies. Activities like launching a computer system that linked networked members were rare and only happened between multi-national companies that were willing to invest heavily in technology. This could be explained by Thorelli's (1986) argument that companies try to avoid overdependence or limit their interactions to one or a few partners by extending their supplier networks.

**Risk management.** Lastly, risk management was unrecognised in the interviews. None of the interviewees even considered risk management in their business operations and planning. They thought that managing risks was a waste of time and resources because most of the uncertainties in the clothing industry were under their control. Therefore, this construct had not yet been recognised in the Hong Kong clothing industry. In addition, Obuchowski (2006) suggested that although some firms understand the benefits of risk management, few firms have adopted the practice. Building a risk management framework can be costly, and take years to implement. Thus, it is understandable that many efforts in risk management are still in the earliest stage. Risk management programme can only be implemented if top management takes the issue seriously. Its support will encourage employees to regard it not as just another layer of bureaucracy but as part of the company's operations and culture (Obuchowski 2006).

In conclusion, commitment, trust and reputation were the major antecedents of strategic networking. However, communication, cooperation and risk management were not considered by interviewees as the antecedents of successful strategic networks, so these three constructs were not included in further quantitative survey.

### **CRQ 3: *guanxi* in network relationships**

The third case research question is *guanxi* in supplier network relationships. Interview data showed that interviewed firms had inherited the Chinese tradition of interpersonal relations – *guanxi* – in managing their business exchanges with networked suppliers. The establishment of *guanxi* was based on the reciprocal exchange of favours: when a supplier helped its client firms, the client firms might return the favour in the future.

Thus, *guanxi* smoothed the flow of business exchanges. In this part, consistent relationships, reciprocal benefits and mutual commitment are discussed.

***Consistent relationships.*** *Guanxi* has a strong influence on the continuity of a relationship with strategic partners. In the clothing industry, firms prefer suppliers with whom good *guanxi* has been established. A respondent from Company A revealed that, when *guanxi* is present, its networked suppliers are more willing to provide help. Therefore, their criteria of choosing suppliers were largely based on the presence of *guanxi*.

[...] It is our usual practice to choose fabric suppliers with good *guanxi*, even though the price charged by other suppliers may be slightly lower, as these suppliers are usually helpful partners.

The senior manager of Company D stressed that his company treasured the *guanxi* relationship with its networked suppliers and would not switch to other suppliers even though they offered fabrics of better quality or lower costs. He stated:

[...] There are plenty of sizable and quality fabric suppliers in Asia providing fabrics of different kinds; for example, those providing woven fabrics in China, synthetic fabrics in Taiwan, and functional fabrics in Korea. We have no problem in finding new fabric suppliers; however, we would rather retain our long-term business relationships with our networked suppliers because of the well-developed *guanxi*. Therefore, we normally do not switch to other suppliers in the market even the price provided by other sources are cheaper and with better quality. We prefer to keep a manageable size of fabric networked suppliers with good *guanxi*.

Most importantly, a ‘brotherhood relationship’ or ‘friendship’ existed between interviewees and suppliers. Most of the interviewees agreed that they were friendly to their suppliers, were willing to accept risks for their suppliers and respected each other’s ‘face’. According to the president of Company G:

[...] We always compromise with our suppliers so that we could settle disputes amicably. Sometimes, we treat the key suppliers as friends. Therefore, we are generous in accepting certain risks from them. For example, we accept the delay of fabric if we can rearrange our production schedules. In addition, we think that we have developed good friendship with our suppliers and considered that ‘face’ is very important in Chinese culture, so we respect them when we work with them.

The representatives of Companies A, B and F stated that the principles of harmony were not important to them because of the realities of doing business. The CEO of Company F emphasised that:

[...] The principles of harmony were less important in our business. In contrast, negotiation is inevitable in an actual business situation as we focus on price and quality of materials provided by suppliers. Therefore, it is difficult to stay in harmony when there is any argument between us. However, the importance of harmony is increased when we do business with Chinese customers or suppliers because Chinese businessmen regard *guanxi* as an important element when doing businesses.

Nevertheless, the practice of giving gifts to partners was not obvious in business practice. None of the companies stated that they gave presents or invited their suppliers to special events like the Mid-Autumn Festival or Lunar New Year. However, some of their suppliers gave gifts to them and invited them for dinners at these times. Therefore, gift giving from buying firms to suppliers was not commonplace in the clothing industry.

***Reciprocal benefits.*** *Guanxi* was crucial to the generation of reciprocal benefits for both buyer and seller firms. With a good *guanxi* relationship, a networked supplier would be more cooperative. Supply risks could then be reduced. A buying firm would be more willing to involve suppliers in certain business issues, for example, the determination of production schedules and product prices. The representative of Company C stated that:

[...] A positive attitude towards business negotiation can help us build mutual trust, strengthen interdependence and achieve win-win results. Indeed, our fabric suppliers are very helpful especially when there are contingency problems. For example, when our production schedule or delivery requirement has changed, they will arrange a flexible delivery schedule for us.

Specifically, speedy delivery of fabrics was crucial to the total lead time in clothing manufacturing and bad management in the delivery of fabric could disrupt the operations of a supply chain. The senior manager in Company D explained that both flexibility and the timeliness of fabric delivery were main concerns in enhancing the company's production efficiency, which should be supported by the networked suppliers:

[...] Our fabric suppliers are very helpful especially when there are contingency problems. Due to the well-established *guanxi* relationships, our suppliers are more willing to provide

us with flexible arrangements for delivering fabrics when our production schedule or delivery requirement is changed.

Price was certainly one of several important considerations for many firms in choosing suppliers. However, it is not the only concern for all the companies under study. The respondents from Companies A, C, D and F said that when there was a good relationship with their suppliers, price gradually decreased in importance. They would consider each other's interest, and could accept a reasonably higher price for fabrics from their networked suppliers. The manager of Company G stressed the need for the mutual negotiation of fair prices.

[...] Even when there is price pressure on our garment costs, we are still concerned about our suppliers' profit margins, and therefore we often work out the material price together with our suppliers to obtain a price that is acceptable to both of us.

In return, the interviewed firms wanted their networked suppliers to offer them the lowest price whenever possible. Usually, the networked suppliers were willing to do so as long as *guanxi* had been established. The vice president of Company E claimed that good *guanxi* with its networked suppliers did help the company obtain fabrics at a lower price:

[...] Because of the well-developed *guanxi*, our suppliers are more willing to disclose the cost components of their fabrics. We can then negotiate the price at the lowest baseline.

Finally, the interviewee of Company G claimed that the company was also generous to its suppliers:

[...] Some of our supplying firms are small-sized companies. When our suppliers encounter financial difficulties, we are willing to pay for the fabric earlier so that suppliers can flexibly solve their financial problems. In turn, our suppliers will give us a better price for fabrics we purchased or extend credit lines for payment.

***Mutual commitment.*** The interviews revealed evidence of mutual commitment between networked parties. Due to the good *guanxi* relationships between the interviewed firms and their suppliers, all of the interviewees admitted that they often made informal commitments to their suppliers by promising that their next orders would be given to them, or that they would increase the order quantity the next time. The interviewed firms could then benefit from quicker response, better fabric quality and discounted fabric prices. Clearly, the commitments of the interviewed firms facilitated the exchange

and circulation of favours in their supply networks. The vice president of Company E, which had good relationships with its fabric suppliers, explained that it always emphasised future order commitment with suppliers so as to obtain better terms:

[...] When we negotiate with our fabric suppliers, we often emphasise our future order commitment. Hence, our network suppliers are more willing to provide us with fabrics on better terms.

In conclusion, all of the interviewed firms conducted transactions with their networked suppliers, reciprocated favours and were mutually committed. The practices of developing *guanxi* relationships with suppliers not only smoothed the flow of business transactions, but also strengthened long-term strategic network relationships and enhanced the performance of both sides. However, business exchange could be smoothed by *guanxi* only when the relationships between buyers and suppliers were longstanding and good. Facing the reality of doing business, *guanxi* would be considered less important when conflicting issues arose. Indeed, developing good *guanxi* relationship was still found to be important when doing business in Chinese societies (Björkman & Kock 1995; Chow & Ng 2004; Davies et al. 1995; Luo 1997). As a result, *guanxi* is regarded as an additional antecedent of a successful strategic network in an Asian context.

#### **CRQ 4: intensity of collaborative relationships**

In the fourth case research question of this case research, three areas of collaboration among network members were identified and discussed.

- What are the practices that clothing companies and their fabric suppliers in Hong Kong carry out in order to make transactional investments in specific assets?
- How many years on average are relationships developed among clothing companies and their fabric suppliers in Hong Kong?
- How many fabric suppliers should each clothing manufacturing company have in order to maximise its efficiency?

*Transactional investments in specific assets.* The first area of the intensity of networking collaborations was the transactional investment in specific assets made by the interviewed firms and their networked fabric suppliers. Asset specificity is the extent of the redeployment of investments in alternative uses without compromising their productive value (Williamson 1991b). As stated in Sub-section 2.4.2, there are three



types of asset specificity: site, physical and human asset (Dyer 1996a; Dyer 1996b; Williamson 1979, 1985). In this part, the transaction-specific investments made by the interviewed firms and by their suppliers were reported.

First, most of the interviewees reported that their fabric suppliers had invested in some transaction-specific investments, such as tailored production systems, to meet specific requirements, as said by one interviewee (Company C):

[...] Some of our fabric suppliers invest in setting up formaldehyde-free production conditions specifically for the infant orders of the Japanese market, or setting up testing laboratories to perform fabric testing in order to meet the global standards of Japan.

Second, some interviewees stated that their suppliers had invested in specialised machines dedicated to their business, including a wrinkle-free oven, needle detectors for children's orders and machines needed in an R&D and inspection laboratory. However, these suppliers had to be large firms because these systems were costly.

None of the interviewees mentioned that their suppliers had relocated a factory close to their plants or offices. This was probably because of the huge factory investments – in the words of one interviewee (Company E):

[...] A fabric mill was already a large investment and needed to be put in place with suitable geographical features, such as adequate water supply, contemporary infrastructure and qualified workers. Because of all that, it was very difficult for a fabric supplier to relocate their factories.

In sum, the fabric suppliers were willing to invest in physical and human assets for their client firms, but not in site assets, owing to operational difficulties and location constraints.

In contrast, the interviewed firms' transaction-specific investments in their suppliers were limited. Interviewees from Companies A, B, E and F claimed that they made no transaction-specific investments in their fabric suppliers. To minimise their investments in suppliers, they limited themselves to suppliers with specific capabilities or techniques, rather than investing in specific assets dedicated to non-qualified suppliers. This view was shared by the interviewees from Companies B, E and F. According to one interviewee (Company A):

[...] Conflict of profits would be high if manufacturers and suppliers invested together in certain areas, so we made no specific investments in our suppliers.

The companies that had invested in specific assets on suppliers, limited them to a certain extent. The interviewee of Company C noted that the company had made some transaction-specific investments in their fabric suppliers because they were committed to the networking relationship with suppliers:

[...] My company makes specific investments in suppliers to only a certain extent because we are committed to our relationships with suppliers. We invest in or lend money to our suppliers for purchasing special functional machines.

The only firm which agreed that making transaction-asset specific investments in suppliers could contribute to the reduction of costs was Company D. Its senior manager stated:

[...] We have made transaction-specific investments in our suppliers; for example, sending employees to train them to develop testing laboratories or use a specific production system. Since fabric performing tests in an outside laboratory is expensive, providing assistance and employees to help suppliers in this area can lower our costs in the long run.

In addition, if the sourcing agreement with suppliers was cancelled, less effort in searching for suitable suppliers to replace existing suppliers was needed. The reason is that 'there were plenty of suppliers possessing different capabilities in different countries. It is not difficult to find new suppliers in the industry' (Company F). However, much time was involved in starting a business with new suppliers because 'each supplier possesses different speciality, such as functional capability and fabric machines. We have to check and test the ability of suppliers in order to confirm whether they meet our standards' (Company G). Therefore, higher transaction costs in monitoring and enforcement were involved in developing relationships with new suppliers, as stated by one interviewee (Company D):

[...] Long time is needed in developing relationships with new suppliers. We usually start a business with a new supplier in small order quantity in the beginning. After dealing with this new supplier for a period of time, good rapport and mutual trust is developed. Experiences and knowledge are also developed between us. Then, we give a larger order quantity to the supplier and take it as a long-term partner.

In conclusion, Company D considered that transaction-specific investments in suppliers reduced costs while others did not. Companies A, B, E and F did not invest in any specific assets in their suppliers, while Companies C and G invested a small amount of assets and Company D was fully committed to investing in its suppliers. When the sourcing agreement was cancelled between interviewed firms and their suppliers, interviewees did not believe that searching for a new supplier would require that much effort. However, developing a relationship with a new supplier could be time-consuming.

***Relationship continuity.*** The second area of network adoption concerned the years-long relationship between interviewed firms and their suppliers. A long-term relationship between a manufacturer and a supplier is expected to last more than five years (Walker 1994). The relationships between the interviewed firms and their fabric suppliers were all more than five years old. This is because garments cannot be made without fabric, clothing manufacturing firms are more willing to develop long-term relationships with their key fabric suppliers.

As reported by the interviewee of Company A, continued relationships with suppliers were expected:

[...] Relationships between companies and suppliers were satisfactory, so we would not terminate our partnerships in the foreseeable future and expect continuity for longer term.

In addition, the CEO of Company F reported that if suppliers' policy could match their policy of company development, they were pleased to have their suppliers as lifelong partners. As a natural result, most of the responding companies had established systems to track their fabric suppliers' performance and capabilities. For example, the deputy general manager of Company C opined that:

[...] The quality of yarn and fabric production is often difficult to predict. Therefore, when we know that there may be problems in fabric production, we hold meetings with our suppliers to discuss how to solve the problem and give certain assistance to them. These discussions are repeated in every season. After several years of working with our suppliers, we have developed a formal system to monitor suppliers' capabilities.

In addition, the vice president of Company E stated that the unclear fabric specifications from suppliers could be a problem, so this company set clear specifications before the confirmation of every order, and this improved the relationship with suppliers:

[...] My company would be at risk if the material standard is out of control, so we establish clear fabric specifications for every order. This can help reduce unclear or not yet confirmed points in production and sequentially smooth the operations and improve the relationships.

In general, effective and continued relationships were present in the networks of the companies under study. Indeed, long-term strategic networking with competent and cooperative suppliers is crucial for a clothing manufacturer to handle customers' requests, thus improving the company's performance.

***Size of fabric supplier base.*** The last area of this research question was the optimal size of supplier base. Most of the interviewees reported that they traded with only a small number (three to eight) trustworthy fabric suppliers, all of which were had good reputations within the industry. The other suppliers were smaller companies that acted as a reserve when manufacturing firms needed other types of fabrics. All of the responding clothing firms were globally renowned, so they could easily develop long-term relationships with these fabric suppliers. As the suppliers were also large and could fill the large quantity of orders issued by the interviewed firms, the size of the companies' supplier base could therefore be reduced. The large quantity of purchase orders was given to these suppliers because interviewed firms were confident that these suppliers could meet the requirements of their customers. However, some small orders would be passed to those smaller suppliers.

Interviewees reported that the proportion of business that was carried out with each supplier was estimated at an average of 25 to 40 per cent. The deputy general manager of Company C said that if the number of suppliers was reduced, the order quantity shared by each supplier would be increased. The vice president of Company E explained that giving larger orders to fewer suppliers could lower the price of material:

[...] My company does business with only four major fabric suppliers. Very often, we can obtain materials at a lower price from our suppliers because we order materials in large quantities. However, we are still concerned about their profit margins; therefore, we negotiate the material price together. Finally, we develop interdependent relationships and achieve win-win situations with our fabric suppliers.

He cited the importance of ‘flexibility of suppliers’, which means building a supplier base with different capabilities in order to diversify its product types and react quickly to the volatile fashion market:

[...] The fashion market is unstable due to the different seasonal and fashion demands for clothing products. For instance, there are different trends every season: shirts made with Lycra or T-shirts with stripes are highly fashionable in the coming season. We have to co-operate with relevant fabric suppliers so as to adapt to many unpredictable trends in the market. This is the reason why we chose the form of strategic networking instead of vertical integration.

He also stated that the main cost of garments came depended on its fabric, so he needed to ensure that those costs were competitive:

[...] The main cost of garments is fabric. It is crucial to keep a manageable number of suppliers possessing different capabilities. Conducting a clothing business should be market-driven rather than supplier-driven. Our company chooses to manufacture garments with fashionable fabrics that match the market trend; therefore, we search for more efficient and cost-effective suppliers. At the end, we aim at establishing an effective strategic network with suppliers that have different abilities to produce different fabrics (Company E).

As a rule, most clothing firms prefer a manageable supplier base with different production capabilities to ensure a stable material supply and enhance purchasing efficiency. Companies A and G stated that they had developed a good *guanxi* relationship with their (relatively few) suppliers. Therefore, the transaction costs in contracting and enforcement costs were lower. In addition, the interviewee of Company C claimed that the number of suppliers was a negative influence on the monitoring of transaction costs:

[...] Managing or monitoring larger number of suppliers involved great amount of monitoring costs. Especially, when most of the suppliers locate their manufacturing activities in China or other Asian countries, the monitoring costs will be even higher.

In brief, some interviewees agreed that the larger the number of suppliers, the higher the transaction costs. Thus, reducing the number of suppliers and offering suppliers larger orders and longer term contracts were sensible choice. In contrast, companies with strong reputations, such as Companies C, E and F, found that a relatively large and

manageable supplier base would be much more suitable. This unexpected finding contradicts the literature (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005) and could be tested in the main survey.

### **CRQ 5: types of transaction costs involved**

The final case research question was the types of transaction costs involved in networking supplier relationships. The reduction of transaction costs is important to organisations. In Sub-section 2.4.3, the main idea of TCA is to reduce *ex ante*, that is, search costs and contracting costs, and *ex post*, that is, monitoring costs and enforcement costs, spending on suppliers.

***Ex ante transaction costs.*** More specifically, the interviewee of Company B suggested that the search costs of the *ex ante* transaction costs involved identifying suitable supply partners in the clothing industry. The criteria of supplier selection generated from our interviews included suppliers' manufacturing capability, management resource and skills, plant capacity and equipment, research and development capabilities, material quality, financial strength, customer service and delivery capability. These findings were consistent with Heide and John (1990) and Stump and Heide (1996) in their verification criteria of supplier qualification.

However, not many transaction investments in specific assets were involved in searching for and selecting suppliers to replace an existing supplier for some responding companies because there were so many choices on the market. The interviewee of Company F stated that there were many fabric fairs or exhibitions in both Hong Kong and China, where it was easy to access fabric suppliers with different capabilities. In addition, the interviewee of Company A suggested that if the company produced basic items of simple fabric, it would be much easier to replace suppliers. Therefore, these search costs might not be a serious problem for the clothing industry.

Furthermore, according to interviewee of Company A, contracting costs of the *ex ante* transaction costs were derived from discussion with suppliers on the target delivery date, price and standards of inspecting incoming materials before issuing a purchase order. This interviewee emphasised that the contracting costs of new suppliers might be higher early in a relationship. However, this cost could be decreased in the long run. The

president of Company G stated that costs of negotiation on contract terms were lower if the order was large:

[...] If the order quantity is large, it is not difficult to bargain on contract terms, such as fabric price and lead time. Therefore, time and cost in negotiation can be reduced. However, in Hong Kong, simple terms of contract need to be written to protect our rights, so the contracting costs are still involved.

In order words, large and reputable manufacturing companies always offered large orders to their suppliers; in turn, their bargaining power was higher than that of smaller supply firms and the bargaining costs were lower. In contrast, the contracting costs might be higher in order to cover more contingency terms. Thus, reputation was positively related to contracting costs.

***Ex post transaction costs.*** Next, according to all interviewees, *monitoring costs* of the *ex post* transaction costs were required when companies arranged for a quality controller to inspect a supplier's factory. However, the interviewee of Company A stated that:

[...] Sending a quality controller frequently to supplier's factory is not required if longer term relationship has been developed with a supplier. We usually inspect or check the fabrics one to two times in our supply firms and when the fabric arrives at our factory. Money is saved for hiring extra employees in inspection.

In addition, companies that were reputable, and that had more employees and higher annual sales, seemed to be more conservative. These companies could increase their spending on monitoring and inspecting suppliers' products, so transaction costs were relatively high compared to small firms. The CEO of Company F stated that:

[...] We would rather spend money on sending quality controllers to suppliers' factories or even asked a few of them to stay in such factories in order to ensure the quality is up to customer standards. It is a must in keeping our product quality.

The interviewee of Company B also stated that reputable firms had to keep a diversified supplier base that offered high quality fabrics in order to meet customer demand, but the costs of monitoring their supplier base might be higher:

[...] We keep a diversified supplier base possessing different production capabilities. We have around fourteen suppliers in total, of which half of them can be considered as strategically important to us. However, some of the current suppliers are not good enough, of which the fabric quality of these suppliers does not reach customer standards. We spend

more costs in monitoring these suppliers and will subsequently replace these suppliers with other new suppliers because we are reputable in providing qualified products in the clothing market. Thus, we need to increase our supplier base to diversify the choice of suppliers without considering the rising costs of transaction.

In brief, monitoring costs of reputable firms might be higher due because of the need to provide high quality products to customers.

Furthermore, one interviewee from Company C claimed that the investments made in specific assets raised monitoring costs if firms did not adopt a relational governance structure and when the supplier relationships were new:

[...] When we start our business transactions with new suppliers, much time and costs are needed to monitor their quality and performance. In addition, we need to invest in specific assets such as arranging our employees to adapt the working styles of the new suppliers and learning the capabilities of the new suppliers, making a rise of costs in both specific assets investments and transactions. After several seasons of transactions, in which we have developed networking relationships and gained working experience with these suppliers, both costs will be levelled down.

In other words, investments in specific assets and transaction costs were greater in the exploration phase of relationship, but they decreased in the long run.

Lastly, enforcement costs involved the *ex post* bargaining or negotiation costs with suppliers. Interviewees stated that they could readily negotiate sharing the burden of costs that were not covered by contracts in two situations, when their companies requested changes in material and when suppliers' raw material costs increased. This is because the interviewees had developed long term relationship with their suppliers; this would hasten the negotiation process. The merchandising manager from Company A insisted that:

[...] Ease of negotiation in requesting material changes depended on whether an order had been placed. If an order had already been placed, it would be more difficult to negotiate the burden of costs. In addition, when we confirmed fabric price with suppliers, we would not share this burden with suppliers, like increase in yarn costs.

In conclusion, transaction costs in contracting, monitoring and enforcement are inevitable for all the responding companies, so reducing transaction costs is a crucial concern to the success of strategic networks.



### 3.4.3 Summary of case research findings

The case research was the first step in investigating how networking theory applied to the clothing industry. Overall, the results from the case research support the argument that trust, commitment, reputation and *guanxi* were important antecedents in strategic supplier networks and had positive effects on the strength of relationships with their suppliers. However, communication, cooperation and risk management were ignored or found to be unimportant in networking collaborations between interviewed firms and their suppliers.

The qualitative findings also confirmed that specific asset investments, whether reciprocal or one-way, were conducive to strategic networking; enterprises worked hard to maintain longer relationships with key supplier members; and the sample firms understood the benefits of managing a small supplier base. Results also showed that transaction costs were found in strategic networks, so the question of how to reduce transaction costs remained a major concern for business exchange. A summary of the results from the case research is shown in Table 3.3.

These findings confirmed that the preliminary theoretical framework developed in Sub-section 2.5 can be applied to the Hong Kong clothing industry and laid the foundation for a further study of the theoretical framework, in which the antecedents of strategic networking, intensity of collaborative relationships and transaction costs when pursuing strategic networks with suppliers are linked. In general, the case research conducted among seven clothing firms in Hong Kong confirmed the appropriateness of the theoretical framework. Hypotheses will be developed in the next chapter, and will be tested in the second stage of this research.

Table 3.3 Summary of results from case research

Comments	Interviewees						
	A	B	C	D	E	F	G
<b>CRQ1: perceptions of strategic networks</b>							
• Strategic networks involve cooperative behaviours and coordinated activities with partners	*	*	✓	✓	✓	*	*
• Strategic networks help improve competitiveness	✓	✓	✓	✓	✓	✓	✓
<b>CRQ2: antecedents of strategic networking</b>							
• Commitment is important in networking relationship	✓	✓	✓	✓	✓	✓	✓
Suppliers make flexible adjustments to meet the needs of interviewees	✓	✓	✓	✓	✓	✓	✓
Suppliers tailor-make products for interviewees' customers	*	✓	✓	✓	✓	*	✓
Suppliers flexibly arrange production schedules for interviewees	✓	✓	✓	✓	✓	✓	✓
Suppliers genuinely care about interviewees' business	✓	✓	✓	✓	✓	✓	✓
Interviewees make commitments to their suppliers	*	✗	✓	✓	✓	✓	✓
• Trust is important in networking relationship	✓	✓	✓	✓	✓	✓	✓
Trust can reliably affect the success of firms	✓	✓	✓	✓	✓	✓	✓
Suppliers are trustworthy and reliable	✓	✓	✓	✓	✓	✓	✓
Suppliers treat interviewees fairly during negotiations	✗	✓	✓	✓	✓	*	✓
Interviewees keep promises they made to suppliers and are honest with suppliers	✓	✓	✓	✓	✓	✓	✓
• Reputation is important in networking relationship	✓	✓	✓	✓	✓	✓	✓
Suppliers have reputation for fairness and reliability in the industry	✓	✓	*	✓	✓	*	*
Interviewees can consistently allocate their profits on valuable long-term investments	*	✓	✓	✓	✓	*	✓
Interviewees can attract the most competent suppliers in the industry	✓	✓	✓	✓	✓	✓	✓
Interviewees perceive themselves as one of the most attractive suppliers to present and potential customers due to the connections with suppliers	*	✓	✓	✓	✓	*	*
Interviewees perceive that they have the ability to influence developments in the clothing industry	✗	✓	✓	*	✓	✓	✗

Notes: ✓ = interviewee agreed with the statement

✗ = interviewee disagreed with the statement

\* = statement had not been raised or interviewee did not comment

Source: analysis of field data.

Table 3.3 (continued)

Comments	Interviewees						
	A	B	C	D	E	F	G
<b>CRQ3: <i>guanxi</i> in network relationships</b>							
• The practice of personal relationship is important in networking relationship	✓	*	✓	✓	✓	✓	✓
Interviewees treasure the <i>guanxi</i> relationship with supplier	✓	*	✓	✓	✓	✓	✓
Brotherhood relationship or friendship is found between interviewees and their suppliers	*	✗	✓	✓	✓	*	✓
Principles of harmony is important in doing business	*	✗	✓	*	*	✗	✓
Practice of giving gifts to suppliers is obvious in business transactions	✗	✗	✗	✗	✗	✗	✗
• Reciprocal benefits are present in networking relationship	✓	✓	✓	✓	✓	✓	✓
Suppliers are often willing to offer a lower fabric price to interviewees	*	✓	*	✓	✓	*	*
Interviewees accept a reasonably higher price for fabrics because of the presence of <i>guanxi</i> relationship with suppliers	✓	*	✓	✓	*	✓	*
Interviewees are generous to their suppliers when suppliers encounter difficulties	*	*	*	*	*	*	✓
• Mutual commitment is present in networking relationship	✓	✓	✓	✓	✓	✓	✓
Interviewees make informal commitments to suppliers by implicitly promising that their next order will be given to them or that they will increase the next order quantity	✓	✓	✓	✓	✓	✓	✓
Commitments of interviewees facilitate the exchanged and circulated favours in the relationship	✓	✓	✓	✓	✓	✓	✓

Notes: ✓ = interviewee agreed with the statement

✗ = interviewee disagreed with the statement

\* = statement had not been raised or interviewee did not comment

Source: analysis of field data.

Table 3.3 (continued)

Comments	Interviewees						
	A	B	C	D	E	F	G
<b>CRQ4: intensity of collaborative relationships</b>							
• Transactional investments has been made in supply firm:							
Suppliers invest in specific site assets on responding firms	✗	✗	✗	✗	✗	✗	✗
Interviewees invest in specific site assets on suppliers	✗	✗	*	✗	✗	*	✗
Suppliers invest in specific physical assets on interviewed firms	*	✓	✓	✓	✓	*	✓
Interviewees invest in specific physical assets on suppliers	✗	✗	✓	✓	✗	✗	✓
Suppliers invest in specific human assets on interviewed firms	✓	✓	✓	✓	✓	✓	✓
Interviewees invest in specific human assets on suppliers	✓	✗	✓	✓	✗	✗	✓
• Relationship with suppliers will be continued	✓	✓	✓	✓	✓	✓	✓
Interviewees will not terminate their partnerships with suppliers in the foreseeable future	✓	✓	✓	✓	✓	✓	✓
• Size of supplier base is small	✓	✗	✓	✓	✗	✗	✓
Number of suppliers has not changed significantly in the past three years	✓	✗	✓	✓	✓	✓	✓
Possessing suppliers with different capabilities is Important	✓	✓	✓	*	✓	✓	*
<b>CRQ5: types of transaction costs involved</b>							
• Search costs for replacing existing suppliers are high	✗	✓	✗	✗	✓	✗	✓
• Contracting costs are low	✓	✓	✓	✗	✗	✗	✓
• Monitoring costs are low	✗	✗	✓	✗	*	✗	✓
• Enforcement costs are low	✓	✓	✓	*	*	*	✓

Notes: ✓ = interviewee agreed with the statement

✗ = interviewee disagreed with the statement

\* = statement had not been raised or interviewee did not comment

Source: analysis of field data.

### **3.5 Chapter conclusion**

This chapter described an initial study to investigate dyadic business relationships among Hong Kong clothing manufacturing firms and their fabric suppliers. Case research in this study made it possible for practitioners to discuss their ideas on the antecedents and the impact of networking relationship on their daily operations. Moreover, the study of seven interviewed firms, combined with the literature review in Chapter 2, provided a foundation for a comprehensive theoretical framework, research questions and hypotheses in the next chapter.

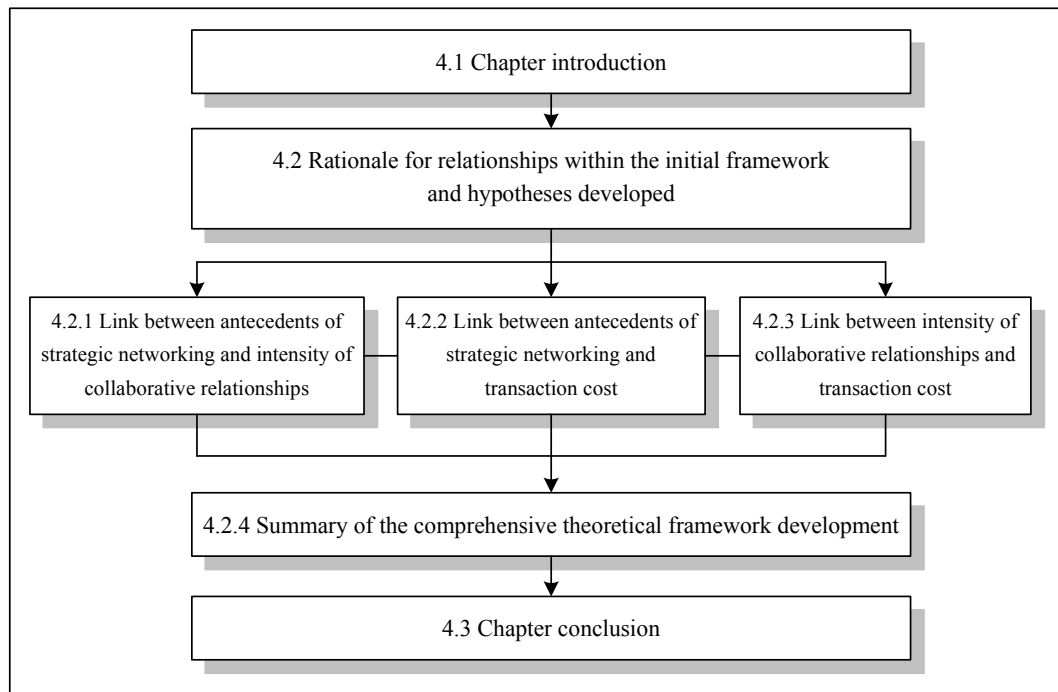
## *Chapter 4 Development of research model and hypotheses*

### **4.1 Chapter introduction**

Chapters 2 and 3 laid the foundations for the preliminary theoretical framework developed for this research. This chapter presents a comprehensive theoretical framework based on the reviewed literature and case research findings.

This chapter has three sections (Figure 4.1). Section 4.1 introduces this chapter. Section 4.2 examines all linkages among the research constructs in the framework, including the hypotheses, and is followed by a conclusion in Section 4.3.

Figure 4.1 Outline of Chapter 4, with section numbers and interrelationships



Source: developed for this research.

## 4.2 Rationale for relationships within the initial framework and hypotheses developed

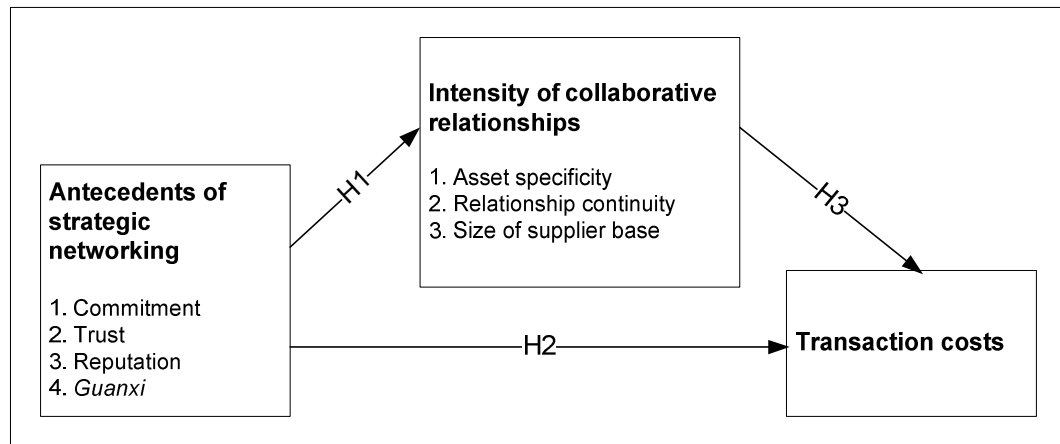
From the extant literature discussed in Chapter 2 and the first stage of case research described in Chapter 3, a comprehensive theoretical framework was developed (Figure 4.2). This framework covers the manufacturer-supplier relationships in strategic networks within the Hong Kong clothing industry. It includes the antecedents of strategic networking, intensity of collaborative relationships and transaction costs. This framework captures the manufacturer-supplier relationship in strategic networks and suggests three main links among the eight constructs: a buying firm's commitment, trust, reputation, *guanxi*, asset specificity, relationship continuity with its suppliers, size of supplier base and transaction costs of operating strategic supplier networking. These links were derived from the three research questions formulated in Section 1.2, and led to three main hypotheses in Sub-section 4.2.1 to 4.2.3. The three research questions are:

**RQ 1:** *How do the antecedents of strategic networking affect the intensity of collaborative relationships?*

**RQ 2:** *How do the antecedents of strategic networking affect transaction costs?*

**RQ 3:** *How does the intensity of collaborative relationships affect transaction costs?*

Figure 4.2 Revised theoretical framework of collaborative strategic networks based on literature review and findings from case research



Source: developed for this research.

#### **4.2.1 Link between antecedents of strategic networking and intensity of collaborative relationships**

The first hypothesis suggests that the extent of antecedents of strategic networking could improve the intensity of collaborations of strategic networks. This relationship is shown as the first link of the framework in Figure 4.2 and is hypothesised as:

**Hypothesis 1:** Antecedents of strategic networking (commitment, trust, reputation and *guanxi*) are associated with intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base).

Twelve sub-hypotheses (**H<sub>1.1</sub>** to **H<sub>1.12</sub>**) are derived from Hypothesis 1 and are explained below.

#### **Relationships between antecedents of strategic networking and asset specificity**

Four specific sub-hypotheses related to the relationships between antecedents and asset specificity in Hypothesis 1 are discussed in this part.

***Positive relationship between commitment and asset specificity.*** First, buying firms are likely to commit their own resources, invest in, or provide assistance to their suppliers (Lee & Humphreys 2007) if suppliers are willing to develop their manufacturing and technical capabilities according to the manufacturer's requirements. In fact, only the expectation of stable and long-term relationships gives the incentive for buying firms to make specific investments and mitigate the risks of short-term opportunistic behaviour (De Toni & Nassimbeni 2000). From the findings of the case research, the buying companies which were committed to the network relationships, such as adjusting and arranging their production schedule to fit suppliers' constraints, were more willing to invest physical and human specific assets in their suppliers (Sub-section 3.4.2: CRQ 2-commitment and CRQ 4-transactional investments in specific assets). Therefore, the following sub-hypothesis is put forward:

**H<sub>1.1</sub>:** Commitment is positively associated with asset specificity.



***Positive relationship between trust and asset specificity.*** Second, trust has a positive effect on making transaction-specific investments (Fynes, Voss & Burca 2005). Relational exchange theory advocates trust in maintaining relational transactions (Lado, Dant & Tekleab 2008) as trust involves the belief that partners will live up to their obligations (Dyer & Chu 2003; Morgan & Hunt 1994). If a buying firm trusts its suppliers, it makes transaction-specific investments in response to its supplier's needs and requirements (Ford et al. 2003) such as in the form of specialised equipment or adaptation of production process (Williamson 1991a). In the meantime, suppliers trust their buyers who have invested in specific assets on their behalf (Jonsson & Zineldin 2003). In turn, buyers invest specific assets in their suppliers. It is reasonable, therefore, to hypothesise that:

**H<sub>1,2</sub>:** Trust is positively associated with asset specificity.

***Positive relationship between reputation and asset specificity.*** Third, there is empirical evidence of the link between reputation and asset specificity, in which reputable buying firms are more likely to commit a specific asset to a relationship (Gundlach, Achrol & Mentzer 1995). In relational transactions in strategic networks (Macneil 1981), reputation is predominant in an uncertain business climate. The reason is that the opportunity cost of buying firms is high because opportunistic behaviour does not only damage a company's reputation in the network, but also affect the relationships negatively with all of its current and potential network partners (Gulati, Nohria & Zaheer 2000). Such opportunistic behaviour can also ruin the investments of a reputable firm specifically devoted to its partners. The good reputation of a buying firm leads to a lower incentive of this firm to behave opportunistically during an exchange, so a firm's reputation can offset uncertainty of opportunism in a business environment (Kreps & Wilson 1982). In brief, reputation can safeguard specific assets and reputable buying firms tend to make greater investments in specific assets to their suppliers. Therefore, the following hypothesis is offered:

**H<sub>1,3</sub>:** Reputation is positively associated with asset specificity.

***Positive relationship between guanxi and asset specificity.*** Finally, *guanxi* involves friendship and the expectation of continued and reciprocal exchange of favours (Pye 1992; Tsang 1998). It also implies the provision of constant help to a person with receiving a favour in return (Buttery & Leung 1998). Moreover, it facilitates exchanges by cultivating relationships with ingenuity and creativity and supplementing them with

flexibility in making specific arrangements and investments (Leung, Wong & Wong 1996). Therefore, a high level *guanxi* of a buying firm on its suppliers increases its transaction-specific investments. From the findings of the case research, companies that were committed to the network relationships or that had developed good *guanxi* with suppliers were willing to rearrange their production schedule for their suppliers (Sub-section 3.4.2: CRQ 2-trust and CRQ 4-transactional investments in specific assets). Thus, this relationship is hypothesised as:

**H<sub>1,4</sub>:** *Guanxi* is positively associated with asset specificity.

In brief, the literature and findings of the case research confirm the existence of positive relationships between the antecedents and transaction-specific investments.

### **Relationships between antecedents of strategic networking and relationship continuity**

In this part, four sub-hypotheses related to the relationships between antecedents of strategic networking and relationship continuity in Hypothesis 1 are discussed.

***Positive relationships between commitment and relationship continuity.*** Empirical support for relational exchange can be found in the literature. Social interactions such as commitment between networked partners affects relationship outcomes (Dyer 1997; Kelley & Thibaut 1978; Powell 1990; Thibaut & Kelley 1959; Uzzi 1997; Zaheer & Venkatraman 1995). This construct is a behavioural factor that encourages bilateral exchange relationships and safeguards specific assets (De Toni & Nassimbeni 2000; Fynes, Voss & Burca 2005). Therefore, there is a larger potential for relationship formation and growth under high degrees of relational exchange (Berry 1995; Berry & Gresham 1986; Metcalf, Frear & Krishnan 1992).

By establishing commitment with partners, a more intense relationship should emerge (Li et al. 2006). Relationship commitment reflects a desire on the part of an exchange partner to maximise its efforts in maintaining the valuable relationship with the other partners, and a belief that the relationship is worth the effort it takes preserve it for as long as possible (Anderson & Weitz 1992; Morgan & Hunt 1994). Indeed, commitment leads to increased customer satisfaction with suppliers, enhances a relationship, and ensures continuity (Selnes 1998). If a buying firm is satisfied with the performance of

its supply partners, the relationship will continue. If the performance is not satisfactory, the buying firm will simply terminate the supplier relationship. Therefore, commitment implies the desire to develop a stable relationship, by making short-term sacrifices to maintain the relationship (Anderson & Weitz 1992). Commitment takes time to build, because exchange relationships between partners evolve over time. When high levels of satisfaction and benefits are achieved from an exchange process, buyer-seller interdependence develops. Findings from the case research demonstrated that manufacturers show informal commitment to their suppliers by promising that their next orders would be given to them (Sub-section 3.4.2: CRQ 2-commitment). Therefore, the continuity of buyer-seller relationships is positively influenced by the commitment of the parties. It is therefore logical to conjecture that:

**H<sub>1,5</sub>:** Commitment is positively associated with relationship continuity.

***Positive relationships between trust and relationship continuity.*** Trust represents the relational dimension of social capital (Tsai & Ghoshal 1998), and enhances the continuity of relationship, in which ‘common goals and values have brought and kept them together’ (Barber 1983, p. 21). Indeed, trust increases the desire to collaborate and ensures a long-term relationship stability for the networked partners (Chang & Harwood 2001; Heide & John 1990; Kale, Singh & Perlmutter 2000; Pruitt 1981). The presence of trust accustoms partners to behave loyally and predictably, so firms substitute trust for contractual safeguards in long-term network relationships (Gulati 1995).

In addition, under a relational governance mechanism, recurrent transactions between firms provide a context for the development of trust over time. In addition, when a relationship is longstanding, it may survive a shakeout period of conflict (Anderson & Weitz 1989). Thus, entrepreneurs invest in developing trust with suppliers in order to create a stable and long-term networking relationship (Gulati 1995).

Furthermore, buyers value trustworthy suppliers and consider trust an important antecedent for long-term relationships (Doney & Cannon 1997). As trust is the belief that a firm will keep its promises (Anderson & Weitz 1989; Doney & Cannon 1997; Schurr & Ozanne 1985), this firm will fulfil its obligations and meet the needs of its partners in the future (Anderson & Weitz 1989; Schurr & Ozanne 1985). In addition, the trustworthy firm acts in the best interests of the other partners based on its established relationships (Wilson 1995). Therefore, when firms believe that their partner’s word or

promise is reliable, they have sufficient information to make key decisions and can confidently expect the consequences of those decisions (Morgan & Hunt 1994; Schurr & Ozanne 1985). Higher levels of trust lead to higher probability that the networking relationship will continue and the dyadic relationship will remain stable (Anderson & Weitz 1989). In addition, trust was also found to contribute to the continuance of relationships with suppliers in the case research (Sub-section 3.4.2: CRQ 2-trust). Therefore, a high level of trust ensures a relationship's long-term stability for the networked partners (Chang & Harwood 2001; Heide & John 1990; Li et al. 2006; Pruitt 1981). This leads to the following hypothesis:

**H<sub>1.6</sub>:** Trust is positively associated with relationship continuity.

*Positive relationships between reputation and relationship continuity.* With the premise of relational exchange, reputation of a buying firm can be built through frequent interactions with partnering firms. Indeed, buying firms with good reputation have good network identities; their popularity within networks could lead to a longer-lasting relationships with their networked suppliers (Anderson, Hakansson & Johnason 1994). As bad reputation can damage buying firms' image and customer relationships in the market (Ganesan 1994), these firms try to protect their reputation in the industry so as to retain loyal customers and suppliers.

These theoretical arguments are consistent with the results from the case research, which showed that manufacturers with a high reputation in the clothing industry tended to maintain longer-term relationships with their networked suppliers by giving large repeat purchase orders to them (Sub-section 3.4.2: CRQ 2-reputation). Therefore, it is logical to hypothesise a positive relationship between reputation and relationship continuity:

**H<sub>1.7</sub>:** Reputation is positively associated with relationship continuity.

*Positive relationships between guanxi and relationship continuity.* Social capital theory advocates that social contacts between partners are frequent and close in a network setting, so reciprocal exchange of favours in *guanxi* enhances the continuance of a manufacturer-supplier relationship in a Chinese society (Bian 1997; De Mente 1994; Lee, Pae & Wong 2001; Leung, Wong & Wong 1996; Lovett, Simmons & Kali 1999; Luo 1997; Millington, Eberhardt & Wilkinson 2006). Indeed, *guanxi* is positively related to relationship quality and interdependence (Lee, Pae & Wong 2001). Moreover,

as *guanxi* enhances the personal connection between people instead of the business connection between firms, a successful organisational relationship among companies begins with the establishment of personal bonds among the major managers of the companies (De Mente 1994). Then, organisational relationships in strategic networks are continued with the establishment of *guanxi*.

From the findings of the case research, interviewees stated that they usually chose and gave purchase order to fabric suppliers with whom they had developed good *guanxi*. This repeat purchase behaviour implied a willingness to continue a relationship with suppliers (Sub-section 3.4.2: CRQ 3). Therefore, *guanxi* is expected to have a positive impact on relationship continuity. The following hypothesis is offered:

**H<sub>1,8</sub>:** *Guanxi* is positively associated with relationship continuity.

In brief, views from the previous literature in Chapter 2 showed positive relationships between the antecedents of strategic networking and the continuity of relationships with suppliers. The continuance of relationships was also found in the case research, where trust helped reduce uncertainty in operations, *guanxi* and commitment helped guarantee the next purchase order, and reputation helped stabilise exchange relationships (Sub-section 3.4.2: CRQ 2). These actions created a closer connection between manufacturer and supplier.

### **Relationships between antecedents of strategic networking and size of supplier base**

In this part, four sub-hypotheses related to the relationships between antecedents and size of supplier base in Hypothesis 1 are discussed.

***Negative relationships between commitment and size of supplier base.*** First, recent scholars have argued that firms that have networks with a few important suppliers work more effectively as the suppliers are willing to share the responsibility for the success of the products (Li et al. 2006; Monczka et al. 1998). Commitment implies a future orientation (Anderson & Weitz 1992; Ganesan 1994) which suggests that a committed partner believes that an ongoing network relationship is guaranteed (Anderson & Weitz 1992; Morgan & Hunt 1994), so commitment represents the highest stage of relational bonding (Dwyer, Schurr & Oh 1987). When the bonding between buyers and suppliers

is increased, buyers are more likely to limit their supplier base. Therefore, a relationship between commitment and size of supplier base exists and is hypothesised as:

**H<sub>1,9</sub>:** Commitment is negatively associated with size of supplier base.

*Negative relationships between trust and size of supplier base.* Second, some large manufacturing firms concentrate on only a few major trustworthy fabric suppliers. They develop fewer but deeper supplier relationships, making trust an important criterion between them and their suppliers (Kahn 2004). Indeed, results from the case research suggested that manufacturers were willing to pass large quantity of purchase orders to their trustworthy fabric suppliers because they were confident that these suppliers could meet the needs of their customers. The large quantity of purchase orders always maintained a large proportion from the total purchase order, so, the size of the companies' supplier base could be reduced (Sub-section 3.4.2: CRQ 4-size of fabric supplier base). Therefore, it is hypothesised that trust affect the size of supplier base, and that:

**H<sub>1,10</sub>:** Trust is negatively associated with size of supplier base.

*Positive relationships between reputation and size of supplier base.* Third, Dollinger, Golden and Saxton (1997) suggest that a positive reputation implies that a firm is highly respected, so reputation is an intangible but valuable asset. However, if a manufacturer fails to deliver a critical product on time, it could lose a valuable customer and endanger its reputation in the industry (Doney & Cannon 1997). Therefore, it is important for renowned manufacturing firms to ensure timely product delivery by developing a large supplier base in order to maintain a stable supply of materials. These theoretical arguments are consistent with results from the case research, which showed that companies with good reputation required a larger supplier base in order to reduce risks in the supply source (Sub-section 3.4.2: CRQ 4-size of fabric supplier base). Hence, a relationship between reputation and the size of supplier base exists. It is logical to hypothesise that:

**H<sub>1,11</sub>:** Reputation is positively associated with size of supplier base.

*Negative relationships between guanxi and size of supplier base.* Finally, social capital relies on the premise that social interactions shape social norms and common goals among parties under business exchange relationships (Tsai & Ghoshal 1998). The social norms generate *guanxi* behaviours in Chinese societies, which leads to the development

of closer and more integrated supplier relationships (Lee & Humphreys 2007). Essentially, *guanxi* is a set of interpersonal interactions involving long-term social obligation or reciprocal exchange of favours in business activities. However, it takes time and requires investments to build a *guanxi* relationship with suppliers in the long run. It is impossible for firms to develop long-term *guanxi* relationship with a larger number of suppliers. Therefore, the closer the *guanxi* relationship with suppliers, the smaller the supplier base. Results from the case research also showed that manufacturers treasured the *guanxi* relationship with their networked suppliers. They were able to find new suppliers with different capabilities. However, they still preferred a manageable and smaller fabric supplier base with whom *guanxi* had been successfully built (Sub-section 3.4.2: CRQ 3). Therefore, it is hypothesised that:

**H<sub>1,12</sub>:** *Guanxi* is negatively associated with size of supplier base.

In brief, the literature in Chapter 2 and findings of the case research of Chapter 3 in Sub-section 3.4.2 confirm the associations among commitment, trust, reputation and *guanxi* and size of supplier base.

According to the above arguments in this sub-section that the commitment, trust, reputation and *guanxi* influence intensity of collaborative relationships – asset specificity, relationship continuity and size of supplier base, the first hypothesis (H<sub>1</sub>) is asserted and will be tested in Study Two.

#### **4.2.2 Link between antecedents of strategic networking and transaction cost**

The second hypothesis indicates how the level of antecedents of strategic networking could reduce transaction costs for organisations. This relationship is shown as the second link of Figure 4.2 and is hypothesised as:

**Hypothesis 2:** Antecedents of strategic networking (commitment, trust, reputation and *guanxi*) are associated with transaction costs.

Four sub-hypotheses (H<sub>2,1</sub> to H<sub>2,4</sub>) are derived from Hypothesis 2 and are explained below.

***Negative relationship between commitment and transaction costs.*** The link in the theoretical framework between commitment and transaction costs is considered first. TCA assumes that a formalised governance structure is essential to manage the risk of opportunism, and that a key to succeed in a strategic network is to reduce transaction costs. Economists recognised that organisations can increase productivity through co-operative specialisation (Dyer 1996a; Dyer 1996b). Commitment of buying firms can be established by making flexible adjustments to standard products or services. Such adjustments stabilise relationships by altering a buying firm's incentive in its own interest and avoids opportunistic behaviour (Williamson 1985). According to relational exchange, the close interactions between networked partners increase commitment and turn, safeguard assets and reduce transaction monitoring costs (Dyer 1997; Powell 1990; Uzzi 1997; Zaheer & Venkatraman 1995). Specifically, manufacturers are tied to other suppliers' processes and goals, so commitment prevents manufacturers from interfering with supply chain performance. Finally, transaction costs are minimised and the committed manufacturers are more willing to continue the relationship. In brief, a negative relationship between commitment and transaction costs is found. Hence, it is logical to hypothesise that:

**H<sub>2.1</sub>:** Commitment is negatively associated with transaction costs.

***Negative relationship between trust and transaction costs.*** The second link in the theoretical framework of Hypothesis 2 indicates how trust helps minimise transaction costs. The literature shows that trust is important to lower transaction costs and make the strategic network economically feasible (Barney & Hansen 1994; Dyer 1997; Dyer & Chu 2003; Jarillo 1993; McEvily, Perrone & Zaheer 2003; Ouchi 1979; Uzzi 1997; Zaheer, McEvily & Perrone 1998). In addition, results from the case research also showed that a buyer's trust in suppliers could reduce transaction costs (Sub-section 3.4.2: CRQ 2-trust).

In addition, with the presence of trust, manufacturers give autonomy to suppliers and accept imperfect contracts or agreements based on the belief that the suppliers will not take advantage of their tolerance for ambiguity. TCA advocates that using trust as a non-contractual mechanism in buyer-supplier relationship is of great economic value. In contrast, in the absence of trust, safeguarding and monitoring costs are needed to manage suppliers' behaviours and protect manufacturers operating under uncertainty (McEvily, Perrone & Zaheer 2003). The reason is that trust encourages collaboration



between partners and discourages short-term alternatives over long-term benefits of networking relationships (Morgan & Hunt 1994). In addition, it is impossible to cover all contingencies in a formal contract for sustained co-operation, but trust can be used to reduce the necessity of specifying all contingencies and unforeseeable consequences (Dwyer, Schurr & Oh 1987; Thorelli 1986), so the *ex ante* contracting costs can be reduced.

In addition, in a co-operative network, parties must either be able to fully trust each other completely or to monitor each other (Ouchi 1979). More specifically, suppliers are willing to share sensitive and proprietary details about their firms when they trust each other (Dyer & Chu 2003; McEvily, Perrone & Zaheer 2003); trust can reduce time and resources that would otherwise be spent on monitoring a supplier's performance and requiring them to adhere to predetermined agreements (Dyer & Chu 2003). Thus, the *ex post* monitoring costs are reduced in the presence of trust.

In an uncertain environment, renegotiation of the initial agreement is inevitable. Trust can be used to reduce the *ex post* enforcement costs in renegotiations and bargaining when a contract is incomplete (Carson et al. 2003; Zaheer, McEvily & Perrone 1998). Such negotiations involve time and effort in reaching mutually acceptable agreements. A firm's promise, credibility and trustworthiness can be an advantage because it minimises transaction costs and the resources spent on monitoring and enforcing inflexible contracts (Dyer 1997; Dyer & Chu 2003). Under the premise of social capital paradigm, with social norms or personal relations, trust may substitute for formal mechanisms such as contracts and direct controls in business transactions (Anderson & Weitz 1989; Rindfleisch & Heide 1997). Therefore, trust is found to be an efficient governance mechanism in minimising transaction costs and improving performance (Dyer 1996a; Dyer & Chu 2000, 2003; Powell 1990; Zaheer, McEvily & Perrone 1998). In brief, the literature review in Chapter 2 and results of the case research in Sub-section 3.4.2 showed a negative relationship between trust and transaction costs in strategic networks with suppliers. Therefore, this relationship is hypothesised as:

**H<sub>2.2</sub>:** Trust is negatively associated with transaction costs.

***Positive relationship between reputation and transaction costs.*** The third hypothesis indicates how reputation of a buying firm increases its transaction costs. The literature is inconclusive; it shows both a positive and a negative relationship between reputation and transaction costs. A positive reputation of a buying firm encourages its suppliers to engage in future transactions and requires the allocation of fewer resources towards relational safeguarding, which in turn, reduces a buying firm's transaction costs (Hansen, Samuelsen & Silseth 2008). Relational exchange networks can mitigate transaction costs by making opportunism costly because of reputational effects (Gulati, Nohria & Zaheer 2000).

From another perspective, a positive reputation increases transaction costs. While a manufacturer's reputation for fairness can help suppliers to determine whether or not they should insist on detailed contracts or be willing to make investments based on oral promises (Dyer 1996a), a reputable manufacturer requested detailed contracts in order to protect its legal rights, and thus, increased contracting transaction costs. Results from the case research also indicated that the reputation of a manufacturing firm increased the monitoring costs on suppliers, while decreasing the related contracting transaction costs (Sub-section 3.4.2: CRQ 5).

Indeed, the most reputable manufacturing firms in the Hong Kong clothing industry could attract potential suppliers that would provide the required materials, so the search costs would be lower. However, they have to ensure the quality of their products to customers. Thus, they have to monitor suppliers even they trust the quality of the materials, and thus, the resources allocated towards monitoring suppliers should be higher. Though the status of the reputable companies may shorten the amount of time needed to negotiate contracts because they have more bargaining power, the administrative costs of writing detailed contracts are higher. Lastly, the enforcement costs may be higher if the reputable companies frequently take actions to ensure that their suppliers perform according to the agreed quality standards. Therefore, the relationship between the reputation of a buying firm and transaction costs is hypothesised as:

**H<sub>2.3</sub>:** Reputation is positively associated with transaction costs.

***Negative relationship between guanxi and transaction costs.*** The final link in the theoretical framework of Hypothesis 2 indicates the negative relationships between *guanxi* and transaction costs. In a market mechanism that *guanxi* has not been recognised, deals must be secured through an expensive and relatively inflexible legal system to enforce formal contractual arrangements. This protection against opportunistic behaviour in the West may incur higher transaction costs (Lovett, Simmons & Kali 1999; So & Walker 2006). In contrast, *guanxi* has been recognised in Chinese society, so contracts are invariably used with the expectation that they will not be fully relied upon (So & Walker 2006). Social capital theory advocates that by generating informal rules of conduct instead of using written contracts, transaction costs can be reduced (Batt 2008) because exchanges occur within a flexible, but relatively permanent and long-term network reduces potential business risks from opportunistic behaviour (Lovett, Simmons & Kali 1999).

The role of *guanxi* can also lower transaction costs by reducing the business risks, and in turn the costs of contract enforcement. (So & Walker 2006) Business risks in this context do not refer to natural disaster or market changes, but involve the relationship between business partners. Such risks can be controlled by keeping a promise. In a business exchange, the risks of a failure on predetermined agreements or a problem arising from contract enforcement can be reduced by *guanxi*. Finally, reliance on legal enforcement can be minimised. Therefore, the underlying reasons for the development of *guanxi* in Chinese societies are to lower transaction costs.

Moreover, the benefit of *guanxi* is to facilitate business exchanges. Likewise, in the network, parties find it easier to compromise on a mutually acceptable price and terms when *guanxi* is present. In order to obtain a net gain in an exchange, there must be some prices which are higher than the lowest acceptable price for the seller and lower than the highest acceptable price for the buyer. In this way, total gain could outweigh transaction costs for both parties from the deal, and in turn, an exchange can proceed (So & Walker 2006). Thus, *guanxi* is helpful in navigating or finding the negotiation process and, finally, in reducing bargaining costs (Leung, Wong & Wong 1996). All the costs and time needed to build this *guanxi* relationship are worthwhile (Millington, Eberhardt & Wilkinson 2006).

In addition, results from the case research indicated that a strong *guanxi* relationship with suppliers reduced transaction costs in contracting and in enforcement (Sub-section 3.4.2: CRQ 4-size of fabric supplier base). In brief, *guanxi* is important in facilitating business exchange in a way that lowers transaction costs. Therefore, a relationship between *guanxi* and transaction costs is advanced:

**H<sub>2,4</sub>:** *Guanxi* is negatively associated with transaction costs.

To sum up, the second hypothesis (H<sub>2</sub>) is the second link in the theoretical framework between antecedents of strategic networking and transaction costs. In order to outweigh transaction costs, a firm may have to find an efficient organisational relationship, and a co-operative strategic network is such a mode. Higher commitment, trust and *guanxi* between buying and supply firms lead to a reduction in transaction costs, while reputation leads to an increase in transaction costs.

#### **4.2.3 Link between intensity of collaborative relationships and transaction cost**

The last hypothesis is the third link between intensity of collaborative relationships and transaction costs, which depicts the relationship between the two groups of constructs and is hypothesised as:

**Hypothesis 3:** Intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base) is associated with transaction costs.

Three sub-hypotheses (H<sub>3,1</sub> to H<sub>3,3</sub>) are derived from Hypothesis 3 and are explained below.

***Negative relationship between asset specificity and transaction costs.*** First, one way of reducing transaction costs is to invest in specific assets. In accordance with the TCA perspective, the transaction costs of exchange are the most important determinants of the governance form of buyer-supplier relationships (Williamson 1975, 1979, 1985). Transaction costs are determined by the extent to which the assets required by the relationship are transaction-specific, in which, co-operative buyer-supplier relationships involve specific investments in time and resources. However, in a competitive

environment, firms are required by the networked members to commit to their relationships by investing in substantial and specific assets. As these specific investments cannot be redeployed with other firms and when the parties are exposed to greater uncertainty and risks of opportunistic behaviour, these investments can force firms to act fairly with their partners.

Indeed, mutual transaction-specific investments can convert a competitive (win-lose) relationship into a co-operative (win-win) one (Anderson & Weitz 1992). Williamson (1985, p. 22) suggests that making ‘irreversible, specialised investments’, which can support strategic networking, promote and safeguard an exchange relationship by making an investment in dedicated assets (Anderson & Weitz 1992), is a strategy for creating a self-enforcing agreement which lowers transaction costs (Williamson 1985). In fact, only the expectation of stable, more exclusive and long-term relationships gives the incentive for making specific investments and mitigates the risks of short-term opportunistic behaviour (De Toni & Nassimbeni 2000).

When there are idiosyncratic transactions, parties will find costs lower if they adopt a governance structure likely to sustain the relationship than if they do not (Macneil 1981). If parties can adopt a governance structure to better safeguard their investments, they can benefit from lowering costs, avoiding opportunism and maintaining their relationships. Dyer’s research (1996b, 1997), suggests that ‘firms (production networks) can simultaneously achieve the twin benefits of high asset specificity and low transaction costs’, which is an important source of competitive advantage and provides insights into inter-firm collaboration (Dyer 1997). Therefore, transaction-specific investments that exchange partners contribute to build exchange relationships can reduce transaction costs (Dyer & Chu 2003). In brief, the literature about the relationship between asset specificity and transaction costs is found and is hypothesised as:

**H<sub>3.1</sub>:** Asset specificity is negatively associated with transaction costs.

***Negative relationship between relationship continuity and transaction costs.*** The second link in the theoretical framework of Hypothesis 3 proposes that relationship continuity helps reduce transaction costs. The benefits of long-term relationships are the exclusion of the search and start-up costs of frequently dealing with new suppliers and the reduction of monitoring costs using strategic networks (Gundlach, Achrol & Mentzer 1995). Indeed, the foundation of a longstanding relationship is laid for personal trust, mutual respect and a good working relationship (Anderson & Weitz 1989). Even without undergoing crises, partners learn each other's idiosyncrasies and deepen their mutual understanding over time (Williamson 1985). Thus, repeated transactions probably create more opportunities to correct transaction inequities in future exchanges, in turn, reducing bargaining costs. Transaction costs can be reduced in the long term because the costs of sharing information go down, and so do the *ex ante* and *ex post* bargaining costs (Dyer 1997).

What a firm needs to do is find an efficient mode of organisational relationship (strategic networking) that can outweigh transaction costs. Therefore, according to both TCA and relational exchange theory, the transaction costs of doing business can be reduced through long-term relationships rather than short-term discrete transactions. To conclude, making a transaction-specific investment for the long term can reduce transaction costs. Therefore, the relationship between relationship continuity and transaction costs is proposed:

**H<sub>3,2</sub>:** Relationship continuity is negatively associated with transaction costs.

***Positive relationship between size of supplier base and transaction costs.*** The final way to reduce transaction costs is to reduce the supplier base. The number of suppliers is restricted by organisational and technological considerations such as the costs of setting up a relationship and searching costs for the right supplies (Bakos & Brynjolfsson 1998). The transaction costs of managing a large number of suppliers can often outweigh the benefits (Chen & Paulraj 2004). Transaction costs could be lowered with a smaller set of suppliers because it is more effective to persuade a small number of suppliers to trust the buying firms and the set-up costs of building an effective networking relationship with fewer suppliers are lowered (Dyer 1996a). Thus, reducing the number of suppliers with larger volume orders and longer term contracts is a contemporary relational approach adopted in many industries (Hutt & Speh 2003) and this is also a characteristic of strategic networks.

In Dyer's (1997) study, Japanese automakers exchange with a smaller group of suppliers than their US counterparts, leading to a larger total volume of goods between transactors in Japan than in the United States. For example, Japanese automakers, working repeatedly with fewer suppliers have in lower transaction costs for three reasons. First, Japanese suppliers can rewin business at a rate of over 90 per cent. Second, repeat transactions can create more opportunities to correct for transaction inequities in future exchanges. Third, transaction costs can be reduced because the costs of sharing information go down, and *ex ante* and *ex post* bargaining costs are reduced.

Therefore, decreasing the number of suppliers can equalise the bargaining power between the parties; in turn, trust can be easily built (Carson et al. 2003). The effect of a small supplier base on reduced transaction costs was confirmed in the case research findings (Sub-section 3.4.2: CRQ 4-size of fabric supplier base). Thus, the positive relationship between size of supplier base and transaction costs is hypothesised as:

**H<sub>3,3</sub>:** Size of supplier base is positively associated with transaction costs.

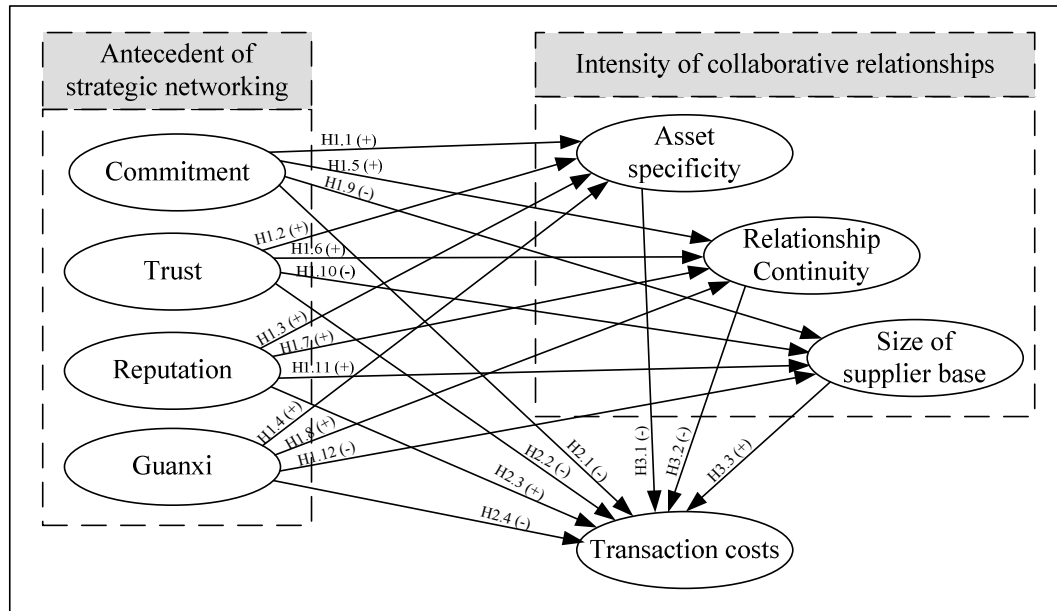
In summary, the last hypothesis (H<sub>3</sub>) is the third link between intensity of collaborative relationship and transaction costs. In order to reduce transaction costs, a firm has to increase its investments in specific assets, continue a longer-term relationship with suppliers and reduce its supplier base.

#### **4.2.4 Summary of the comprehensive theoretical framework development**

To summarise the development of the comprehensive theoretical framework in this research, eight constructs were included in the framework in Figure 4.3. Each construct and its relationships in the hypothesised model have been discussed. All the relationships between the constructs have a theoretical basis for their inclusion in this model, which was derived from the literature and the initial case research. First, antecedents of commitment, trust, reputation and *guanxi* enhance networking development in investing in specific assets, continuing relationships and reducing the supplier base. Then, transaction-specific assets can safeguard a network relationship; long-term relationships are conducive to effective transactions; and managing a small number of suppliers helps to stabilise network relationships. Finally, transaction costs

can be lowered due to the combination of effects of both the antecedents of strategic networking and the intensity of collaborative relationships.

Figure 4.3 Comprehensive theoretical framework of collaborative strategic networks



Source: developed for this research.

In addition, the three research questions were established in Chapter 2 and 19 sub-hypotheses about those issues are proposed in this chapter. A summary of these research questions and hypotheses is listed in Table 4.1.



Table 4.1 Summary of research questions and hypotheses

Research questions	Research hypotheses
<b>RQ 1: How do the antecedents of strategic networking affect the intensity of collaborative relationship?</b>	<p><b>H<sub>1</sub>: Antecedents of strategic networking are associated with intensity of collaborative relationship.</b></p> <p>H<sub>1.1</sub>: Commitment is positively associated with asset specificity.</p> <p>H<sub>1.2</sub>: Trust is positively associated with asset specificity.</p> <p>H<sub>1.3</sub>: Reputation is positively associated with asset specificity.</p> <p>H<sub>1.4</sub>: <i>Guanxi</i> is positively associated with asset specificity.</p> <p>H<sub>1.5</sub>: Commitment is positively associated with relationship continuity.</p> <p>H<sub>1.6</sub>: Trust is positively associated with relationship continuity.</p> <p>H<sub>1.7</sub>: Reputation is positively associated with relationship continuity.</p> <p>H<sub>1.8</sub>: <i>Guanxi</i> is positively associated with relationship continuity.</p> <p>H<sub>1.9</sub>: Commitment is negatively associated with size of supplier base.</p> <p>H<sub>1.10</sub>: Trust is negatively associated with size of supplier base.</p> <p>H<sub>1.11</sub>: Reputation is positively associated with size of supplier base.</p> <p>H<sub>1.12</sub>: <i>Guanxi</i> is negatively associated with size of supplier base.</p>
<b>RQ 2: How do the antecedents of strategic networking affect transaction costs?</b>	<p><b>H<sub>2</sub>: Antecedents of strategic networking are associated with transaction costs.</b></p> <p>H<sub>2.1</sub>: Commitment is negatively associated with transaction costs.</p> <p>H<sub>2.2</sub>: Trust is negatively associated with transaction costs.</p> <p>H<sub>2.3</sub>: Reputation is positively associated with transaction costs.</p> <p>H<sub>2.4</sub>: <i>Guanxi</i> is negatively associated with transaction costs.</p>
<b>RQ 3: How does the intensity of collaborative relationships affect transaction costs?</b>	<p><b>H<sub>3</sub>: Intensity of collaborative relationships is associated with transaction costs.</b></p> <p>H<sub>3.1</sub>: Asset specificity is negatively associated with transaction costs.</p> <p>H<sub>3.2</sub>: Relationship continuity is negatively associated with transaction costs.</p> <p>H<sub>3.3</sub>: Size of supplier base is positively associated with transaction costs.</p>

Source: developed for this research.

### **4.3 Chapter conclusion**

Based on previous chapters describing the variables found from the literature in Chapter 2 and findings from exploratory studies in Chapter 3, this chapter elaborated on the relationships among the eight constructs under the practising of strategic networks. In brief, antecedents of strategic networking affect the intensity of collaborative relationships and in turns, reduce transaction costs.

This chapter provided a comprehensive theoretical framework for the whole picture of strategic networks, within the context of Hong Kong clothing industry. The theoretical foundations for this research were finally established in terms of the 19 sub-hypotheses in three research questions. These 19 sub-hypotheses will be tested in light of a survey study in the next chapter.

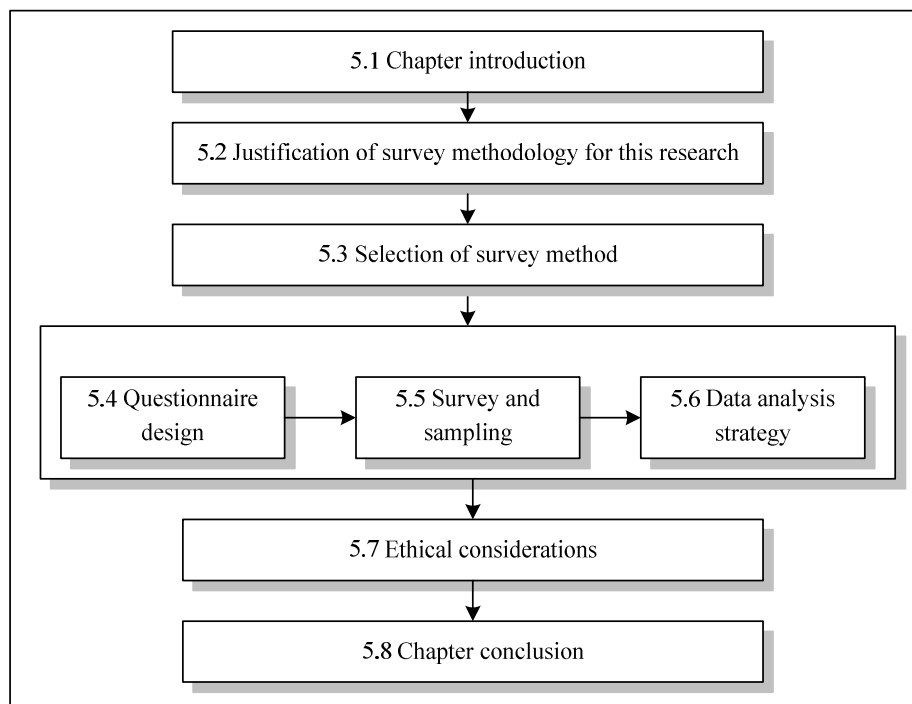
## *Chapter 5 Study two: survey research methodology*

### **5.1 Chapter introduction**

Study one in Chapter 3 described and justified the methodology of a case research that helped to build a comprehensive theoretical framework in Chapter 4. This chapter describes and justifies the quantitative research methodology of Study Two that was used to test that framework.

This chapter consists of seven sections (Figure 5.1). Section 5.1 introduces the flow of this chapter. Section 5.2 justifies the research paradigm and methodology. Section 5.3 explains how the survey method was selected. Then, the questionnaire design in Section 5.4, survey and sampling procedures in Section 5.5, and data analysis strategy in Section 5.6 are presented. Section 5.7 examines the ethical considerations of this research and Section 5.8 concludes this chapter.

Figure 5.1 Outline of Chapter 5, with section numbers and interrelationships



Source: developed for this research.

## 5.2 Justification of survey methodology

This section begins by explaining the philosophical foundations of this research, and then, discusses the two-stage research design and methodology.

### 5.2.1 Justification of philosophical foundations

A research paradigm is a theoretical framework within which a researcher may work. It can be regarded as the basic belief system or worldview that guides the researcher (Guba & Lincoln 1994). A paradigm is a set of philosophical assumptions such as realism, positivism, constructivism and critical theory (Healy & Perry 2000). The realist or epistemology is the most appropriate to the achievement of the aim described in Chapter 1.

***Positivist philosophy.*** Positivists advocate that the social sciences were modelled on natural sciences, in which theories were tested by the use of rigorous quantifiable measurements and deductive reasoning. Positivists measure independent facts about a single apprehensible reality consisting of discrete elements whose nature can be known and categorised (Guba & Lincoln 1994; Perry, Riege & Brown 1999). Positivism attempts to understand the principles of natural scientific research by testing theories experimentally to determine whether those theories are true or false (Kolakowski 1993). Since positivists agree that research methods should be deductive, hypotheses are deduced from theory and presented as a number of related variables which can be tested by measuring the observables (Kolakowski 1993). In this way, the theory can be verified or refuted (Jankowicz 2005) and knowledge can be statistically generalised to a population by a set of statistical analysis of observations about an easily accessible reality (Sobh & Perry 2006). Positivists seek to explain and predict what happens in the social world by searching for regularities and causal relationships among its constituent elements (Kerlinger & Lee 2000).

Deductive thinking is based on facts or phenomena, which follow rules and theories. A theoretical structure is developed prior to empirical observation (Gill & Johnson 2002). Positivist researchers use logical deduction to formulate theories or hypotheses before examining whether or not the phenomenon will fit the theory. The theory links concepts in a causal chain and includes untested statements about the relationships among these concepts. The concepts have to be operationalised if the concepts are not observable (Gill & Johnson 2002). Positivists make inferences about causal factors between two or

more social phenomena (Jupp & Norris 1993), so these inferences can answer the question 'why' from data which are categorised and analysed to fit the concepts (Denzin 2001).

In such a methodology, the data can be verified using quantitative measurements on a directly observed phenomenon (Merton 1967), while the empirical results predict behaviour without including any subjective experiences (Smith 1986). Thus, replication of positivist research does not always generate the same results as the prior research (Sobh & Perry 2006). For instance, Hubbard and Armstrong (1994) indicated that only 15 per cent of replication studies in social science fully confirmed the prior results, 25 per cent partially did and 60 per cent led to results that conflicted with the original findings. Therefore, positivism has been criticised for its exclusion of the discovery or exploratory dimensions in inquiry and the under-determination of theory (Guba & Lincoln 1994). These assumptions are appropriate in the physical sciences but not in the study of complex social science phenomena which such as marketing and management (Sobh & Perry 2006).

Indeed, positivist research methods are useful in applying proven methods from the natural sciences and illustrating the results clearly and concisely (Birtwistle 2001). Positivists argue that a research objective should be observable, quantifiable and measurable. Thus, the major criticism of positivism is that the social world should not be included in the analysis if it cannot be quantified, measured objectively or controlled scientifically.

In addition, positivists suggest that respondents' opinions about their individual experience and meaning should be excluded from positivist studies (Denzin 2001). The deductive methods of positivism have been criticised by Glaser and Strauss (1967) who explain that the explanations of social phenomena are meaningless unless they are based on observation and experience. Thus, theory should not be formulated *a priori*, and should result from the inductive analysis of empirical research if that theory is to be more credible (Birtwistle 2001). In addition, the inductivists advocate the use of respondent subjectivity as a way of interpreting reality (Fielding & Fielding 1986), so they reject positivist's denials that individual actions are subjectively influenced by their interpretation of circumstances, beliefs, attitudes and motives (Laing 1967). Theory formulation should therefore be *a posteriori* (Fielding & Fielding 1986).

If research into the adoption of collaborative relationships had to be conducted using positivist methods, it would entail developing a theory concerning the variables that contribute to the antecedents of strategic networking. This concept could then be tested with clothing manufacturers and proven to be true or false. If the theory was proved, it could be used to predict the impact on transaction costs, and if it was proved false, the theory would be rejected. The positivist philosophy of hypothesis testing is rejected since it would not be conducive to the development of in-depth knowledge of understanding of how manufacturers adopt their strategic networks.

***Humanist philosophy.*** In contrast, humanists, post-positivists, or interpretivists disagree with the positivist's belief in objectivity and hypothetical-deductive theory with the separation of facts and meanings (Lincoln & Guba 1985). Because of the fundamental differences between the natural and social sciences, different methods are required to interpret and realise social phenomena (Benton 1977). According to Von Wright (1993), the research methods of the natural sciences which tend to generalise about phenomena which could be replicated and predicted. Humanists argue that generalisations from a survey administered to a sample of respondents neglect the differences of opinions among those respondents due to the constraints of the instrument and the method of analysis (Cicourel 1981). In contrast, Droysen, Dilthey, Simmel and Weber claim that an investigation should study the uniqueness of a situation. They also criticise the positivist way of 'deduction and explanation', but encourage the 'meaning and understanding' of personal experiences. Researchers should understand the phenomena by putting themselves into the situation being examined. This paradigm is completely different from the positivist view where the researcher should be able to prove objectivity (Von Wright 1993).

The humanist advocates the search for understanding by interpreting the phenomenon rather than explaining it (Easterby-Smith, Thorpe & Lowe 2002). In this paradigm, the world is socially constructed and has to be interpreted by people who are interacting in the situation, so it cannot be objective (Husserl 1991). Humanist researchers use qualitative data collection methods to depict the reality from the perspective of respondents, and to explain it in the holistic sense while analysing the data generated in order to build up concepts (Henwood & Pidgeon 1993). The paradigm suggests that researchers should consider the historical perspectives of people, so that they can use a

narrative presentation of the situation under scrutiny, and support the work on 'real' people and 'real' situations (Denzin 1989). Therefore, the humanist focuses on the subjective investigation generated by the interactions of people within the social world (Birtwistle 2001).

Furthermore, Bechhofer (1974) argue that the research process is not a clear-cut sequence of procedures, but an interaction between the conceptual and empirical worlds, and that deduction and induction occur at the same time. The humanist philosophy of research has the advantage of offering insights in the phenomena being studied. The main criticism is the risk of subjective interpretation by both the respondents and researchers, leading to a distortion in the presentation of results. Positivists criticise humanists for their lack of structured research techniques, which may produce unreliable results because this type of research is not easily replicated (Giddens 1993). In this research, the humanist philosophy is used in the initial stage of data collection to reach a deeper understanding of the current practice of strategic networks in Hong Kong's clothing industry.

***Realist philosophy.*** Realism is a useful paradigm for social scientists (Sobh & Perry 2006). Realism postulates that 'the social world external to individual cognition is a real world made up of hard, tangible and relatively immutable structures' (Kerlinger & Lee 2000, p. 4). The study of relationships among objects, events and causes is multi-dimensional, complex, and may not always be realised (Sayer 1992). This paradigm concerns the understanding of the common reality of people who can operate independently (Perry, Riege & Brown 1999).

Realist researchers use abstractions to identify the causal mechanisms that will improve their understanding of a process. A mechanism is a tendency to generate a change in an object or the causal event. Realist researchers examine objects in relation to their structures and interpret them as more than just social compositions, the causal relationships between the intervening mechanism and the effects or events. Then, they obtain both qualitative and quantitative data to discover patterns of behaviour or causal relationships (Sayer 1992).

Bruner (1986) and Tyler (1986) refute the positivist paradigm of explanation and describe social interactions as having distinctive features such as a dialogue of the postmodern world and a fragmentary text of conversation which should create an image in the minds of the researcher and the reader. However, an experience of the observer is part of the social interactions, so this cannot be objective, and societies cannot be fragmentary and developing (Bruner 1986; Tyler 1986). Realists try to understand the world by answering the 'how' questions, so the realist research methodology uses the responses and statements from individuals to explain and understand their experiences (Denzin 2001).

The paradigm underlying this research is realism, because it deals with the external and social reality (Perry 1998), such as the way that strategic networking between clothing manufacturing firms and their suppliers reduces transaction costs of exchange. Indeed, realist researchers suggests that those 'who use causal modelling techniques ... are committed to realism' (Hunt 1991, p. 397). Quantitative methods are used to identify general tendencies in this study, where this method is judged to be appropriate and where they can contribute towards the achievement of the research objectives (Birtwistle 2001). In this research, the research questions were interpreted by qualitative interpretative data using case research, and quantitative indicative data collection methods using structural equation modelling techniques.

***Post-modernist philosophy.*** Postmodernism is extensively discussed in areas such as architecture, music, fashion, film, literature and visual arts (Brown 1995). According to Silverman (1990, p. 1), 'postmodernism brings the modernist hegemony to closure. It examines the ends, goals, hopes of modernist activity, situating it in its context of premodernist frameworks'. Postmodernists extend the boundaries of modernism and explore the world by experiencing life from a subjective standpoint (Silverman 1990). Postmodernism resembles post-positivism, but 'rejects the notion that individuals have unmediated access to external reality, but it also questions the very existence of the free thinking subject' (Brown 1995, p. 172). Seidman (1992) argues that the postmodern statements cannot be generalised but are centred in the society. In other words, it is not possible to generalise or develop theories from empirical research and any kind of research framework or methodology is therefore problematic (Brown 1995). Therefore, this research also rejects the postmodern research methodology in favour of realist philosophy which can investigate and develop 'structures, practices and discourses of a society, and how they are constituted and interact' (Best & Kellner 1991, p. 260).



**Summary of the paradigm.** In brief, these philosophical positions reflect the polarisation among researchers; however, many research methods fall between the positivist and realist extremes (Birtwistle 2001; Gill & Johnson 2002). These two positions can be compared in terms of their emphasis on deduction or induction, the explanatory method, epistemology and methodology (Table 5.1).

Table 5.1 A comparison of positivist and realist research methods

	Positivist research methods	Realist research methods
<b>Mode of research enquiry</b>	<ul style="list-style-type: none"> <li>• Deduction – theory <i>a priori</i></li> <li>• Theory testing</li> </ul>	<ul style="list-style-type: none"> <li>• Induction – theory <i>a posteriori</i></li> <li>• Theory confirmation</li> </ul>
<b>Explanation method</b>	<ul style="list-style-type: none"> <li>• Explanation via analysis of causal relationships</li> </ul>	<ul style="list-style-type: none"> <li>• Explanation of subjective meaning systems and explanation by understanding</li> </ul>
<b>Epistemology</b>	<ul style="list-style-type: none"> <li>• Findings true – researcher is objective by viewing reality through a ‘one-way mirror’</li> </ul>	<ul style="list-style-type: none"> <li>• Findings probably true – researcher is involved and subjective, and needs to triangulate any perceptions he or she is collecting</li> </ul>
<b>Methodology</b>	<ul style="list-style-type: none"> <li>• Use of various controls, physical or statistical, so as to allow the testing of hypotheses</li> <li>• Highly structured research methodology to ensure study can be replicated</li> <li>• Results are generalised</li> <li>• Generalise to the population with experiments or surveys</li> <li>• Verification of hypotheses: chiefly quantitative methods</li> </ul>	<ul style="list-style-type: none"> <li>• Commitment to research in everyday settings, to allow access to, and minimise reactivity among the subjects of research</li> <li>• Minimum structure to ensure generation of relevant and sufficient data</li> <li>• Results are specific for the situation</li> <li>• ‘Confirmatory’ theory building with case research or convergent interviewing</li> <li>• Triangulation, interpretation of research questions by quantitative indicative and qualitative interpretative data methods with structural equation modelling</li> </ul>

Sourced: Adapted from Birtwistle (2001), Gill and Johnson (2002), Perry, Riege and Brown (1999), Sobh and Perry (2006)

Whilst composite research methods can be applied, research philosophies cannot be combined. Realist researchers suggest triangulating or combining research methods (Birtwistle 2001). This research combined qualitative case research and quantitative survey research in order to strengthen and add depth to the analyses (Denzin 1989; Fielding & Fielding 1986). Although the findings of each method should not be expected to be exactly the same, each method uses a different perspective to investigate the same phenomenon (Lincoln & Guba 1985). ‘Qualitative work can assist quantitative

work in providing a theoretical framework, validating survey data, interpreting statistical relationships and deciphering puzzling responses, selecting survey items to construct indices and offering case study illustrations' (Fielding & Fielding 1986, p. 27), so both qualitative and quantitative methodologies are complementary (Jones 1988). In this research, qualitative case research (described in Chapter 3) was used to ensure that quantitative measures were relevant in this research context (Silverman 1985) and a quantitative survey research that was described in this chapter was used to generalise the developed theories.

The realism paradigm was appropriate for this research. Given the complexity of the social science world, realists believe that the knowledge that researchers obtain can be considered real but fallible (Perry, Riege & Brown 1999), so data were triangulated across the literature (Chapter 2), qualitative case research (Chapter 3), and through major quantitative survey study (Chapter 5). Then, structural equation modelling (SEM) was carried out, incorporating complex interdependencies among variables in addition to using multi-item scales to measure latent, unobservable variables (Godfrey & Hill 1995). To conclude, this research, which used causal modelling techniques in empirical testing, was committed to realism (Hunt 1991).

### **5.2.2 Justification of a two-stage design**

A research design specifies the procedures needed to obtain the required information, test the hypotheses, determine possible answers to the research questions and assist in decision making (Malhotra 2004; Zikmund 2003). It is an action plan starting with an initial set of questions and ending with a set of conclusions or answers. The research design guides the researcher in collecting, analysing and interpreting observations. It is also a logical model of proof concerning the causal relations among the variables under investigation (Yin 1993). This sub-section addresses the selection of a research design in order to ensure that the data answer the research questions. The most commonly classified research designs are exploratory, descriptive, or causal/explanatory (Cavana, Delahaye & Sekaran 2001; Malhotra 2004; Sekaran 2003). This study combined these three types of research design, each of which played a distinct and complementary role.

An exploratory study was used in the first stage, which included understanding the problem with the phenomena, setting up a design for comprehensive investigation and developing a model (Sekaran 2003). The exploratory study in this research consisted of a literature review (Chapter 2) and a case research (Chapter 3) to establish a research model and three main hypotheses for testing.

Descriptive research was conducted in the second stage to describe the characteristics of the variables of the research topic (Sekaran 2003). Such research took the form of a survey that was undertaken to quantify the variables under study, such as taking the frequencies, mean or standard deviations of the constructs within the context of the clothing manufacturing industry. The survey required a structured research design and an appropriate number of respondents to minimise errors and maximise reliability (Cavana, Delahaye & Sekaran 2001; Malhotra 2004).

However, descriptive research does not develop associations among variables (Zikmund 2003), so explanatory research was included in this research. Explanatory research seeks evidence of cause-and-effect relationships among variables (Malhotra 2004). The casual relationships were examined in which the independent variable(s) could be manipulated to test a hypothesis on a dependent variable (Schwab 2005). Table 5.2 shows the independent and dependent variables for each research question. There was no explicit manipulation of variables in this research as an experiment could not be conducted, so the data gathered through the survey were modelled. Using structural equation modelling can not only predict, but also explain how the variables were related (Hoyle 1995). To conclude, in this research, an exploratory study was conducted in stage one, followed by a descriptive and explanatory approach in stage two.

Table 5.2 Independent and dependent variables for each research question

Research question	Independent variables	Dependent variables
RQ 1: How do the antecedents of strategic networking affect the intensity of collaborative relationships?	Commitment, trust, reputation and <i>guanxi</i>	Asset specificity, relationship continuity and size of supplier base
RQ 2: How do the antecedents of strategic networking affect transaction costs?	Commitment, trust, reputation and <i>guanxi</i>	Transaction costs
RQ 3: How does the intensity of collaborative relationships affect transaction costs?	Asset specificity, relationship continuity and size of supplier base	Transaction costs

Source: developed for this research.

After reviewing and justifying the use of the three research designs, survey method is selected (Section 5.3), three processes in the second stage of a quantitative questionnaire survey – questionnaire design (Section 5.4), survey and sampling strategy (Section 5.5), and data analysis strategy (Section 5.6) – are discussed.

### 5.3 Selection of survey method

After justifying the two-stage design, the selection of the survey method is discussed. This process consisted of administering a structured questionnaire to respondents (Malhotra 2004). Data can be collected in several ways: face-to-face personal interviews, personally administered or mailed surveys, telephone interviews and electronic surveys. As Table 5.3 shows, each method has its own advantages and disadvantages (Dillman 2007; Fowler 1988; Frazer & Lawley 2000; Malhotra 2004; Sekaran 2003; Zikmund 2003). The choice of the mail survey method for this research depended on the balance of research objectives and constraints (Malhotra 2004). The reasons for the use of the self-administered mail surveys are discussed next.

Table 5.3 Comparative evaluation of survey methods

Comparison dimension	Survey methods			
	Personal	Mail	Internet	Telephone
1. Suitability for complex questionnaires	Excellent	Fair	Poor	Good
2. Control of data collection environment	Excellent	Poor	Poor	Fair
3. Minimisation of interviewer effect	Poor	Excellent	Excellent	Fair
4. Cost of data collection	Poor	Excellent	Excellent	Good
5. Diversity of questions	Excellent	Fair	Fair	Poor
6. Implementation of non-response follow-up	Poor	Excellent	Poor	Excellent
7. Accessibility to geographically dispersed sample	Poor	Excellent	Excellent	Good
8. Minimisation of non-response items	Excellent	Fair	Poor	Excellent
9. Possibility for interviewer to probe and explain	Excellent	Poor	Poor	Good
10. Obtainment of sensitive information	Fair	Excellent	Good	Fair
11. Quantity of data collectable	Excellent	Fair	Fair	Good
12. Anonymity of respondent	Poor	Excellent	Excellent	Fair
13. Cooperation of respondent	Excellent	Poor	Poor	Good
14. Opportunity for respondent to think about questions	Poor	Excellent	Good	Poor

Table 5.3 (continued)

Comparison dimension	Survey methods			
	Personal	Mail	Internet	Telephone
15. Maximisation of response rate	Good	Fair	Fair	Poor
16. Control of sample	Excellent	Fair	Poor	Good
17. Scheduling requirements	Poor	Excellent	Excellent	Fair
18. Speed to complete survey	Fair	Poor	Excellent	Excellent
19. Control of field force	Poor	Excellent	Excellent	Fair
<b>Total count of 'excellent' ratings</b>	8	9	7	2

Note: the shaded column is the method used in this research

Source: synthesised for this research from Dillman (2007), Fowler (1988), Frazer and Lawley (2000), Malhotra (2004), Sekaran (2003) and Zikmund (2003).

**Advantages of the mail survey method.** From Table 5.3, there were nine 'excellent' ratings in mail survey methods, indicating that this was an appropriate method for collecting data. The following points elaborate upon the rationale for the choice of the mail survey method:

- a geographically dispersed sample could be covered at a relatively low cost, since interviewers are not required (Sekaran 2003; Zikmund 2003),
- respondents could complete the questionnaires at the most convenient time and at their own pace (Sekaran 2003),
- the mail survey assured the anonymity of the respondents and the confidentiality of the information provided, helped the researcher obtain sensitive information relating to financial or personal information and minimised the effect of social desirability (Fowler 1988; Lockhart & Russo 1994; Malhotra 2004; Zikmund 2003),
- it was able to introduce the research topic and motivate the respondents to provide honest answers as explained in the introduction page of the questionnaire (Sekaran 2003),
- the cost of simultaneously administering questionnaires to a large number of respondents was less than the cost of interviewing them (Lockhart & Russo 1994; Malhotra 2004; Sekaran 2003),
- special skills were not required to administer the questionnaire (Sekaran 2003), and
- the problem of field force and potential for interviewer bias were eliminated as no interviewers and supervisors were involved in data collection (Lockhart & Russo 1994; Malhotra 2004).

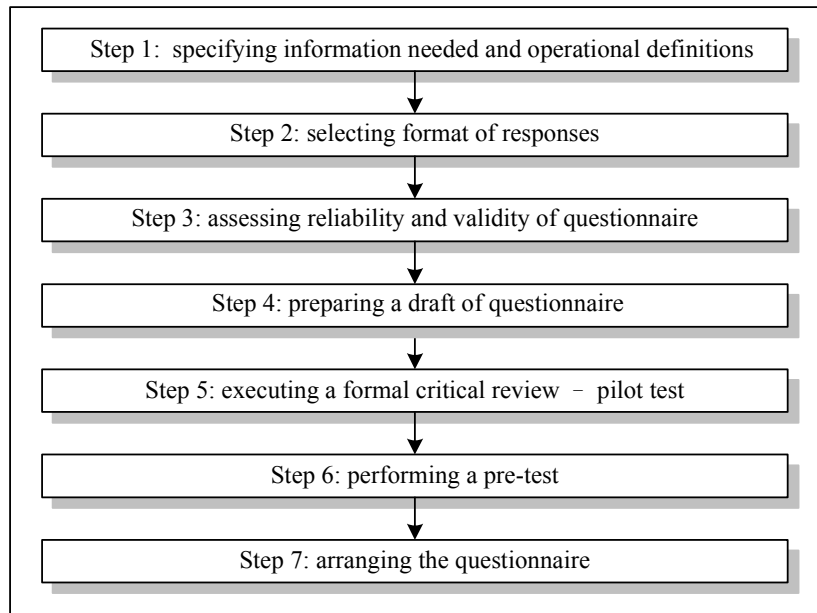
***Limitations of the mail survey method.*** However, mail surveys have some limitations that were minimised in this research. A typical limitation is the low return rate (Sekaran 2003), especially in institutional surveys because respondents were busy and reluctant to disclose any information regarding their company. Due to the low average response rate in Hong Kong (about 7.1 per cent) (Harzing 1997), the problem of nonresponse is central to the use of mail surveys and affects the validity of responses (Fowler 1988). However, nonresponse bias may be beneficial for the survey because subjects disqualify themselves if they find the topic is not relevant to them, have difficulty answering the questions, or if they recognise that they are not knowledgeable enough about the topic (Lockhart & Russo 1994). The level of nonresponse may lead to serious bias on the results (Malhotra 2004), but higher response rates do not necessarily reduce such bias because the subjects respond to the mail survey if they are interested in the topic (Lockhart & Russo 1994; Malhotra 2004).

Another limitation is the difficulty in identifying the respondents (Sekaran 2003). Combined with the problem of low response rates, it is difficult to maintain a representative sample. However, there are ways to increase the response rate and clarify the respondents' identities, such as telephone contact before sending the questionnaires, offering an incentive for completing the survey, adding a cover page to the questionnaire, providing stamped returned envelopes, keeping the questionnaire concise, and giving follow-up telephone calls (Dillman 2007; Lockhart & Russo 1994; Sekaran 2003; Zikmund 2003). These measures are discussed in the next section.

## **5.4 Questionnaire design**

This section examines the process of developing a questionnaire. A self-report questionnaire is a measuring instrument that asks questions of individual respondents (Schwab 2005). The questionnaire for this research was designed by translating the research objectives in Chapter 1 into a series of questions. The questionnaire used in this research is included in Appendices 5.3 and 5.4. The seven steps in designing the questionnaire were synthesised from Aaker, Kumar and Day (2007), Bagozzi (1994), Frazer and Lawley (2000), Malhotra (2004) and are shown in Figure 5.2.

Figure 5.2 The questionnaire design and development process



Source: synthesised from Aaker, Kumar and Day (2007), Bagozzi (1994), Frazer and Lawley (2000), Malhotra (2004).

#### 5.4.1 Step one: specifying information needed and operational definitions

Step one began by identifying the problems to solve or theories to test, based on the research questions, and determined the items to be included in the questionnaire which measured the multiple constructs of this research (Bagozzi 1994a). Before data were collected, the conceptualisation and operationalisation of the constructs in the theoretical framework developed in Chapters 2 and 3 are considered and presented in this sub-section.

#### Conceptualisation and operationalisation

The measurement development process consisted of conceptualising and operationalising the constructs of interest. A construct is an abstract representation of a phenomenon which can be used for special theoretical purposes (Cavana, Delahaye & Sekaran 2001; Schwab 2005). However, it cannot be directly linked to observations, while a concept is used to communicate the essence of an observation. A researcher operationalises a concept so that it can be observed and measured using a questionnaire. Therefore, the concepts relevant to the research problems had to be defined before the measurement development process. Such a process involved conceptual and operational definition of each construct (Table 5.4).

Conceptualisation is the definition of a concept in precise terms or the assignment of theoretical meanings to a construct. Operationalisation is the translation of the concept into a measured variable (Cavana, Delahaye & Sekaran 2001; Schwab 2005; Sekaran 2003). In this research, conceptual definitions were developed from the literature reviewed in Chapters 2 and operational measures were chosen in alignment with conceptual definitions and discussed in this sub-section.

The independent and dependent variables were then identified based on the developed hypotheses as shown in Table 5.2. Independent variables, which are equivalent to exogenous variables, are manipulated and cannot be influenced by other variables in the model (Holmes-Smith, Cunningham & Coote 2007; Malhotra 2004). Dependent variables measure the effect of the independent variables on the test units and are influenced by other variables in the model. They can also act as independent variables if they are simultaneously influencing other endogenous variables in a model (Holmes-Smith, Cunningham & Coote 2007; Malhotra 2004). Table 5.4 presents the conceptual and operational definitions for the variables in the framework. Relevant survey questions were then designed to collect the data.



Table 5.4 Conceptual and operational definitions of construct, items, survey questions, number of items and scales used in this research

Construct	Conceptual definitions	Operational definitions and items	Survey questions	Number of items	Scales
<b>Antecedents of strategic networking</b>	Antecedents of strategic networking involve the variables leading to the collaborations of buyers and suppliers.	Antecedents of strategic networking are measured by the extent of agreement with statements in a Likert scale about the commitment, trust, reputation and <i>guanxi</i> established in networking.	Part B in the questionnaire		
Commitment	Commitment is a partner's determination to invest maximum effort in carrying out an implicit or explicit pledge, such as the development of a new product or service program to ensure the continuity and stability of the network relationship (Dwyer, Schurr & Oh 1987; Fontenot & Wilson 1997; Monczka et al. 1998; Morgan & Hunt 1994; Wilson 1995).	<ul style="list-style-type: none"> <li>• make operation adjustments to cope with supplier's competence</li> <li>• tailor their fabric requirement to suit supplier's production capability</li> <li>• flexible when supplier cannot meet with fabric specifications</li> <li>• flexible in production schedule when supplier's delivery arrangement is changed</li> </ul>	Question 13 in the questionnaire	<b>4</b>	Interval
Trust	Trust can be defined in a way that emphasises reliable obligations, predictable actions and fair negotiations in exchanges even if the possibility for opportunism is present (Zaheer, McEvily & Perrone 1998).	<ul style="list-style-type: none"> <li>• keep promises made to supplier</li> <li>• always honest with supplier</li> <li>• provide reliable information to supplier</li> <li>• trustworthy to supplier</li> <li>• need to be cautious when working with supplier</li> </ul>	Question 14 in the questionnaire	<b>5</b>	Interval
Reputation	Reputation refers to the perception of a firm's management integrity, financial soundness and network identity (Anderson, Hakansson & Johnason 1994; Dollinger, Golden & Saxton 1997).	<ul style="list-style-type: none"> <li>• show concern for community and are known as responsive to environmental issues</li> <li>• consistently provide investor(s) with excellent returns and prove a valuable long-term investment</li> <li>• have reputation for efficient and effective use of corporate resources</li> <li>• regarded as one of the most appealing clothing suppliers to their present and potential customers</li> <li>• can attract the most competent fabric suppliers for business</li> <li>• have the capability to influence the development of the local clothing industry</li> </ul>	Question 15 in the questionnaire	<b>6</b>	Interval

Table 5.4 (continued)

Construct	Conceptual definitions	Operational definitions and items	Survey questions	Number of items	Scales
<i>Guanxi</i>	<i>Guanxi</i> is defined as a special relationship or friendship, implying the continued and reciprocal exchange of favours (Bian 1994; Davies et al. 1995; Pye 1992; Tsang 1998).	<ul style="list-style-type: none"> <li>• frequently give presents to supplier and invite supplier for dinners</li> <li>• emphasise the principles of harmony when working with supplier</li> <li>• will reciprocate with same amount of favour to supplier no matter the favour obtained</li> <li>• must try returning favours to supplier in the future if supplier helps them this time</li> <li>• providing convenience for supplier also means furnishing the same to themselves</li> <li>• emphasise the provision of face (<i>mianzi</i>) to supplier when working with them</li> <li>• emphasise the “brotherhood relationship” or friendship developed with supplier</li> </ul>	Question 16 in the questionnaire	7	Interval
<b>Intensity of collaborative relationships</b>	Intensity of collaborative relationships involves three aspects: asset specificity, relationship continuity and size of supplier base.	Intensity of collaborative relationships is measured by the extent of agreement with statements in a Likert scale about the transaction-specific investments made to the exchange relationships, willingness of continuing the network relationships and number of networked suppliers.	General information and Part A and Part B in the questionnaire		
Asset specificity	Asset specificity refers to the level of transferability of the investment that supports a given transaction without sacrificing its productive value (Williamson 1985; Young-Ybarra & Wiersema 1999).	<p>If respondents’ sourcing agreement with supplier are cancelled, .....</p> <ul style="list-style-type: none"> <li>• they would need substantial investments to search for another new supplier</li> <li>• their production and delivery schedule in the season will be interrupted</li> <li>• it would be difficult to find another supplier to provide the same fabric for their particular garments in the season</li> <li>• they would need to invest a lot of time and effort redeploying their staff who are presently working with supplier</li> <li>• they would have to forsake a lot of working experience or knowledge tailored to the relationship with supplier</li> </ul>	Question 12 in the questionnaire	5	Interval

Table 5.4 (continued)

Construct	Conceptual definitions	Operational definitions	Survey questions	Number of items	Scales
Relationship continuity	Relationship continuity is defined as the perceived bilateral expectation of future interactions (Heide & John 1990).	<ul style="list-style-type: none"> <li>• expect to work together on future seasons with supplier</li> <li>• expect to establish long-term development goals with supplier</li> <li>• involvement with supplier is open-ended</li> <li>• expect supplier to grow into our life-long partner</li> </ul>	Question 10 in the questionnaire	<b>4</b>	Interval
Size of supplier base	Size of supplier base refers to the reduction of supplier size that increases the efficiency of a buying firm to perform a particular activity and to the establishment of longer term supplier relationships (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005).	<ul style="list-style-type: none"> <li>• number of key fabric suppliers</li> </ul>	Question 4 in the questionnaire	<b>1</b>	Ratio
<b>Transaction costs</b>	Transaction costs are defined as the costs of running the contractual relationship for current purposes (Macneil 1981).	Transaction costs are measured by the extent of agreement with statements in a Likert scale about the level of transaction costs involved in a network relationship.			
		<ul style="list-style-type: none"> <li>• timely and costly to search and select suitable suppliers to replace supplier</li> <li>• timely and costly to negotiate contract terms such as price, minimum quantity and target delivery date with supplier</li> <li>• timely and costly to monitor the performance of supplier, to ensure they reach the original agreement</li> <li>• timely and costly to resolve disputes with supplier</li> </ul>	Question 11 in the questionnaire	<b>4</b>	Interval

Notes: the items were measured on a five-point Likert scale

Source: developed for this research.

This sub-section explains how the operational measures were taken from established scales in the literature. The source of the scales for each construct and the specific measures for each of the variables were identified to turn abstract concepts into practical items. Multiple measures of constructs are used in order to allow the development of precise measures without iterative test and retest processes and to reduce measurement error. Churchill (1979) suggested three advantages of using multi-item measures. First, the specificity of items can be averaged out when they are combined. Second, by combining items, relatively fine distinctions are possible. Finally, a greater number of items in a combination tends to increase reliability and decrease measurement error (Churchill 1979).

In this research, some of the items were slightly modified and some were eliminated to increase the likelihood of achieving unidimensionality in the construct. The scales used in this research were supported by a theoretical base and had high estimates of reliability and validity. Since a large range of interval rating scale might make respondents tired of reasoning between-point resolution, the rating of each item in the questionnaire was confined up to the five-point Likert scale, ranging from 'strongly agree' to 'strongly disagree', while maintaining adequate scale discrimination (Frazer & Lawley 2000). Likert 5-point scales were employed for all constructs, except size of supplier base as shown in Appendices 5.3 and 5.4.

### **Antecedents of strategic networking in Western and Asian context**

As explained in Section 2.4 in Chapter 2, antecedents of strategic networking are represented by four measures: commitment (four items), trust (five items), reputation (six items) and *guanxi* (seven items). The scales for these four constructs were adapted from established scales from the literature with high estimates of reliability and validity. A 5-point Likert scale with responses ranging from 1 (strongly disagree) to 5 (strongly agree) was used to measure scale items for the five antecedents.

The first antecedent of strategic networking is *commitment*, which is the enforcement of a partner to warrant maximum effort ensuring an implicit or explicit pledge, such as the development of new product or service programs, for the continuity and stability of the network relationship (Dwyer, Schurr & Oh 1987; Fontenot & Wilson 1997; Monczka et al. 1998; Morgan & Hunt 1994; Wilson 1995). The construct of commitment was

operationalised using four items derived from Selnes (1998), whose questionnaire paralleled the definition of Hailén, Johanson and Seyed-Mohamed (1991). This measure was reliable for commitment based on the high coefficient alpha ( $\alpha = 0.886$ ) measuring the actions leading to the adaptation to specific partner needs.

The second antecedent of strategic networking is *trust*, which can be defined in a way that emphasises reliable obligations, predictable actions and fair negotiations in exchanges even if the possibility for opportunism is present (Zaheer, McEvily & Perrone 1998). To develop measures of trust, a measurement instrument created by Doney and Cannon (1997) was used. This scale of trust was chosen because it was designed to describe trust in close and personal relationships and had high scale reliability ( $\alpha = 0.94$ ). However, not all of the eight items were applicable to this research. Three items were excluded as they related only to the respondents' business success and welfare, and were not related to the concept of trust as defined in this research. At last, five items corresponding to the three dimensions of trust – reliability, predictability and fairness of network partners – were presented in the scales that were consistent with the definition.

The third antecedent of strategic networking is *reputation*, which is the perception that a firm is known for management integrity, financial soundness and network identities (Anderson, Hakansson & Johnason 1994; Dollinger, Golden & Saxton 1997). Reputation was measured by six items developed from two studies: Anderson, Hakansson and Johnason (1994) and Dollinger, Golden and Saxton (1997). The items of these two studies were consistent with several other studies, such as Doney and Cannon (1997) and Human and Provan (1997) that measure the reputation of the firms in the network. Dollinger, Golden and Saxton's (1997) measures were used in this study because they covered the dimensions of management integrity and financial soundness of reputation, as were Anderson, Hakansson and Johnason's (1994) measures, which covered the concept of network identities.

The last antecedent of strategic networking is *guanxi*, which is defined as a special relationship or friendship with the implications of continued and reciprocal exchange of favours (Bian 1994; Davies et al. 1995; Pye 1992; Tsang 1998). Seven items were used to measure *guanxi* in this study, adapted from several studies in the Chinese context (Björkman & Kock 1995; Lee, Pae & Wong 2001; Leung & Wong 2001; Lin 2007; Luo

1997; Man & Cheng 1996; Zheng 2000). Two items were adapted from Lee, Pae and Wong (2001) with had high reliability ( $\alpha = 0.74$ ) measuring the particularised and personalised business relationship based on the reciprocal exchange of favours (Q17b and g in questionnaire). Two items were adapted from Leung and Wong (2001) measuring the *renqing* and reciprocal relationship (Q17c and e in questionnaire), while one item was generated with the concept of gift or banquet-giving behaviour (Q17a in questionnaire) (Leung & Wong 2001). Another item about the return of favours in the future was adapted from Man and Cheng (1996) (Q17d in questionnaire). In addition, one item measuring *mianzi* was created based on the study of Luo (1997) and Zheng (2000) (Q17f in questionnaire). In case of the possibility of misunderstanding of terms by respondents, the meaning of special cultural terms used were provided, as adapted from Lin Yutang's *Chinese-English Dictionary of Modern Usage* (Lin 2007).

### **Intensity of collaborative relationships**

Intensity of collaborative relationships is represented by three measures: asset specificity (five items), relationship continuity (four items) and size of supplier base (one item). The survey items for each construct were adapted and modified from different studies and discussed below. A 5-point Likert scale measured scale items for asset specificity and relationship continuity with responses ranging from 1 (strongly disagree) to 5 (strongly agree). Only the question about the construct of size of supplier base used an open-ended question.

The first construct for intensity of collaborative relationships is *asset specificity*, which refers to the level of the transferability of the investment that supports a given transaction without sacrificing its productive value (Williamson 1985; Young-Ybarra & Wiersema 1999). Asset specificity can be divided into three categories: site, physical and human asset. Many other measures used to test the specificity of assets were not used in this research because they measured the adaptability in the production systems, tools and equipments in the electronic sectors (such as Fynes & Voss 2002; Heide & John 1992; Zaheer, McEvily & Perrone 1998) and chemical manufacturing sectors (such as Stump & Heide 1996).

The measurement scale in this research was mainly adapted from Wathne and Heide (2004) who tested their measures in the apparel industry. First, three items on physical assets were used in this research with high reliability ( $\alpha = 0.74$ ) (Wathne & Heide

2004). Second, two selected items from Wuyts and Geyskens (2005) about the specialised knowledge and people tailored to the buyer-seller relationships, which belonged to the human asset specificity, were also adapted. Nevertheless, results from the case research showed that site asset specificity was not applicable in the clothing industry where clothing firms did not build plants or did not invest in any facilities near their supply firms (Sub-section 3.4.2: CRQ 4-transaction investments in specific assets). Therefore, site asset specificity was not used in this research.

The second construct for intensity of collaborative relationships is *relationship continuity*, which is the perception of the bilateral expectation of future interaction (Heide & John 1990). The four items chosen to ask about the expected continuity of future interactions with suppliers were adapted from Carson et al. (2003), which used the items of Heide and Miner (1992). The adapted items are suitable measures of relationship continuity given that they exhibited high coefficient alpha ( $\alpha > 0.6$ ) (Carson et al. 2003).

The last construct for intensity of collaborative relationships is *size of supplier base*, which is the optimised size of supplier base, leading to the establishment of longer term supplier relationships (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005). Only one item asked for the actual number of key suppliers (note: key fabric suppliers are those supplying more than 15 per cent of a firm's total fabrics needs). A measure of this construct has not yet been generated in the literature, so the researcher created the item used in this research.

### **Transaction costs**

Until now, there have been limited operational measures of transaction costs. In this study, the open-ended questions of several studies were adapted (Dyer 1997; Heide & John 1990; Heide & Miner 1992; Noordewier, John & Nevin 1990; Stump & Heide 1996; Wathne & Heide 2004; Zaheer, McEvily & Perrone 1998) and operationalised into Likert-scaled questions. Four items based on the definitions and characteristics of transaction costs were developed, measuring searching costs, contracting costs, monitoring costs and enforcement costs.

### 5.4.2 Step two: selecting format of responses

Step three of questionnaire development was to assign a scale of measurement to each construct. There are four types of scales: nominal, ordinal, interval and ratio (Hair et al. 2006). A *nominal* scale assigns numbers to label or identify subjects to certain categories or groups (Sekaran 2003). In this research, question such as company category, company profile and respondent information used a nominal scale.

An *ordinal* scale is a ranking scale in which the numbers are assigned to objects to indicate the extent to which respondent possesses certain characteristics (Malhotra 2004). This scale provides no measure of the actual amount or magnitude in absolute terms; only the order of the values is provided (Hair et al. 2006). In this research, none of the questions had ordinal scales.

An *interval* scale is the most frequently used scale in marketing research (Bagozzi 1994a), which assigns numbers to compare differences between objects and numerically equal distances on this scale represent equal values in the characteristic being measured (Malhotra 2004). Means and standard deviations of the responses on the variables can be computed. Likert scales used in Questions 10 to 16 were treated as interval scales, as many social scientists accept that Likert scales are approximately interval in character (Aaker, Kumar & Day 2007; Bagozzi 1994a). In addition, these Likert scaled questions, ranging from 'strongly agree' to 'strongly disagree', elaborate the perceptions of a respondent toward the issue addressed in each item. Since a large range of interval rating scale might make respondents tired of reasoning between-point resolution (To & Leung 2001), the rating of each item in the questionnaire is confined to the five-point Likert scale, while maintaining an adequate scale discrimination.

A *ratio* scale is the highest form of measurement precision that allows researchers to identify or classify objects, rank the objects and compare intervals or differences (Malhotra 2004). This scale not only measures the magnitude of the differences between points on the scales, but also taps the proportions in the differences (Sekaran 2003). In the questionnaire, a ratio scale was used in Questions 2, 3, 4, 6 and 7 which elicited general information such as the number of key suppliers and years of doing business with the key supplier, and Questions 19 and 22 which asked about the number of employees and working years for the company, respectively (Appendix 5.4).



### 5.4.3 Step three: assessing validity and reliability of questionnaire

In the fourth step of research design, care has to be taken to ensure that the questionnaire accurately and consistently measures what it is supposed to measure and does so in a valid and reliable way. The discussion of the types and definitions of validity and reliability are shown below and summarised in Table 5.5.

Table 5.5 Assessment of validity and reliability of questionnaire

<b>Types of validity and reliability</b>	<b>Definition</b>	<b>Assessment strategies</b>
<b>Content validity</b>	The extent to which the content of a scale logically measures the intended concept (Malhotra 2002).	<ul style="list-style-type: none"> <li>• Literature review</li> <li>• Feedback from case research</li> <li>• Feedback from experts</li> <li>• Pretesting of questionnaire</li> </ul>
<b>Construct validity</b>	The extent to which the empirical results obtained from the measures fit the theories in the research designed (Sekaran 2003).	<ul style="list-style-type: none"> <li>• Literature review</li> <li>• Pretesting of questionnaire</li> <li>• Data analysis of SEM</li> </ul>
Convergent validity	The extent to which the scale correlates positively with other measures of the same construct (Malhotra 2004).	<ul style="list-style-type: none"> <li>• Data analysis of SEM</li> </ul>
Discriminant validity	The extent to which a measure does not correlate with other constructs from which it is supposed to differ (Malhotra 2004).	<ul style="list-style-type: none"> <li>• Data analysis of SEM</li> </ul>
<b>Reliability</b>	The extent to which the measures are free from error and so ensure consistent results if repeated measurements are made (Malhotra 2004; Sekaran 2003).	<ul style="list-style-type: none"> <li>• Clear statement and multiple indicators in the questionnaire</li> <li>• Pretesting of questionnaire</li> <li>• Data analysis of SPSS and SEM</li> </ul>

Source: adapted from Lawley (1998) with other sources acknowledged in the table.

### Validity and reliability

First, validity concerns whether a scale or set of measures accurately represents the concept of interest (Hair et al. 2006). Reliability and two main types of validity – content and construct – relevant to this study are described below.

**Content validity.** Content validity refers to a subjective but systematic evaluation of representativeness of the content of a scale for measuring the intended concept (Malhotra 2002). The content validity of a scale is the ‘extent to which differences in observed scale scores reflect true differences among objects on the characteristic being measured’ (Malhotra 2002, p. 293). To strengthen the content validity of this research, prior literature was examined to identify possible dimensions (Section 2.4). After an extensive literature review on strategic networking and the buyer-supplier relationship, an initial list of potential questionnaire items was collected, as discussed in Sub-section 5.4.1. For instance, the items were devised to measure a particular dimension (such as human asset specificity) of an individual construct (such as asset specificity). Possible items for the construct of asset specificity were adopted from several studies. Any items that were not related to the clothing manufacturing industry were modified. In addition, insights on the background and understanding of the issues involved came from the case research (Chapter 3). Some items for the relevant constructs were based on the input received from discussions with the seven interviewees from the Hong Kong clothing industry in the case research.

Next, in order to ensure content validity, academic experts reviewed the questionnaire and recommended amendments to the items (Sub-section 5.4.5). This knowledge improved the development of items. The questionnaire was then pre-tested on 20 respondents. The review of the literature was compared with the responses given by these 20 firm managers sampled in the pre-test stage as discussed in Sub-section 5.4.6 (De Toni & Nassimbeni 2000) and the questionnaire was adjusted to incorporate the feedback. Hence, content validity was achieved.

**Construct validity.** Construct validity is one of the criteria for judging the quality of an empirical research design. It is the degree to which the empirical results obtained from the measures fit the theories in the research designed (Sekaran 2003). Construct validity also concerns also the extent to which the operational measure for a construct reflects all of its observable effects, appears to describe a single construct, and correlates appropriately with operational measures of other related constructs (Nunnally 1978). The goodness-of-fit measures of the one-factor congeneric model discussed in Sub-section 6.5.4 can be viewed as confirming the construct validity of the domain or construct of specific interest. This validity can also be assessed through convergent validity and discriminant validity.

***Convergent and discriminant validity.*** Convergent validity is established when the scale correlates positively with other measures of the same construct (Malhotra 2004; Zaheer, McEvily & Perrone 1998). In this research, multiple items were used to measure all the constructs (as discussed in step one) and those multiple indicators operated in a consistent manner to form a single measure (Neuman 2006), thus providing high convergent validity. Discriminant validity is established when a measure does not correlate with other constructs from which it is supposed to differ (Malhotra 2004; Zaheer, McEvily & Perrone 1998). In other words, it reflects the extent to which the constructs in a model are different. Convergent validity and discriminant validity will be statistically assessed in data analysis using SEM with Amos and are reported in Sub-section 6.5.4.

***Reliability.*** The reliability of a measure is the extent to which the measures are free from error, and so ensure consistent results if repeated measurements are made (Malhotra 2004; Sekaran 2003; Zikmund 2003). In this research, the reliability of measurement scale was achieved by three steps in the research design. First, a clear conceptual and operational definition of concepts was developed (Table 5.4). Second, almost all constructs were operationalised by previously tested multiple indicators, as multiple indicators of a single concept are more reliable and less systematic in terms of error than a single indicator (Hair et al. 2006; Neuman 2006). Lastly, the measure was pretested and modified before being administered, as discussed in step seven (Sub-section 5.4.6). Therefore, reliability was achieved. A detailed assessment of validity and reliability using Amos and SPSS was reported in Sub-section 6.5.4 where data were statistically analysed.

#### **5.4.4 Step four: preparing a draft of questionnaire**

Step four was to prepare a draft of a questionnaire with the objectives of the research. The principles of questionnaire design focused on seven areas: wording, structure, order, layout, content, number of items in the questionnaire and translation of the questionnaire (Dillman 2007; Fowler 1988; Schwab 2005; Sekaran 2003). The purpose of focusing on these areas was to reduce nonresponse and reduce or avoid measurement error (Dillman 2007).

*Wording* of the questionnaire was considered first. The choice of words depends on the respondent's educational level and the use of terms and idioms in the culture (Sekaran 2003). The wording was simple, specific and honest (Schwab 2005). For example, terms such as *guanxi* are culturally specific to Chinese society. It was essential that respondents understand the term, *guanxi*, so plain language was used and notes were given in the questionnaire indicating its meaning. Moreover, interviewees in the pre-test exercise found the term 'strategic networking' to be difficult to comprehend. They suggested using a simpler term for laymen, such as manufacturer-supplier partnership. A definition was given on the second page of the questionnaire so that respondents would understand the intended meaning of the term. Moreover, the questionnaire for this research used both Chinese and English as the data collection instrument because Chinese is the mother tongue for most people in Hong Kong.

Second, the questions had a clear *structure* in the questionnaire. All questions were structured using 5-point scaled and multiple choice questions. Respondents were asked to choose among a set of alternatives, in order to answer the questions quickly. Most questions in Part A were close-ended with specific ordered choices that were less demanding for respondents (Salant & Dillman 1994). In addition, all questions with the same answer categories were grouped into the same part. In addition, several questions in open-ended format asked for exact numbers, such as in Questions 2, 3, 4, 6, 7 and 19.

Next, the questions were *ordered* from the relatively easy, general and straightforward questions to more specific and difficult questions (Dillman 2007; Fowler 1988; Sekaran 2003). Respondents are often hesitant to begin a questionnaire because they are either anxious about whether they can answer the questions, or are reluctant to provide information. Therefore, it is helpful to start with items that are interesting and easy to complete. In designing the questionnaire for this study, general questions were asked first. The model-related items were placed in the middle part of the questionnaire, from Parts A to Part B. The company profile and respondent information were arranged last because people tend to resist disclosing their personal information (Parts C and D in the questionnaire) (Schwab 2005). Asking this information last would increase the likelihood of response because respondents have already made a commitment by completing the earlier part of the questionnaire (Schwab 2005).

Then, *layout* of the questionnaire was considered. A respondent-friendly questionnaire is attractive and allows respondents to read words in the correct order. In this research, respondents were guided by a graphical illustration on the cover page. Then, a clear designed layout was applied in the remaining part of the questionnaire, such as inserting an increased font size, using **bold print**, different **font types** and **shaded backgrounds** for alternative rows in tables, to prevent respondents' responses from being missed. Finally, a thank-you notice appeared at the end of the questionnaire (Dillman 2007; Frazer & Lawley 2000). A vertical booklet is standard reading format for most western cultures and was used as the format of this research (Dillman 2007). Although the booklet costs more to mail, as it needed a larger envelope, this gave respondents the impression that the questionnaire was more professional.

Next, the questionnaire *content* had to be relevant to the research. The questionnaire developed for this research covered the most representative items that were potentially related to the theoretical variable of interest. Based on the findings of the literature and the case research, a preliminary self-administered questionnaire was developed. A series of investigative questions relating to respondents' views of the antecedents in developing an integrative strategic network, the extent of intensity of the firm's adoption of strategic networks and self-reported transaction costs were included.

The *number of items* required for each construct is important in achieving adequate levels of reliability. Between four and eight items are usually adequate for scales composed of the sums of items (Bagozzi 1994a). When having indicators of latent variables in structural equation models, at least four items per latent variable are generally needed when single latent variables are examined or at least two items per latent variable are needed when two or more latent variables are investigated simultaneously. The more items per latent variable, the more stringent the test and the more confidence in the validity of measures of the latent variable (Bagozzi 1994a). In this research, four to seven items per latent variable were used.

Finally, *translation* of the questionnaire was considered. Although Chinese is the mother tongue for most people in Hong Kong, the questionnaire used both official languages – English and Chinese (Lee & Dawes 2005). As Western ideas are not universally applicable, the transferability of constructs and measures from one culture to another is a matter of concern (Behling & Law 2000). In the translation process, a bilingual

individual, the researcher, translated the measures from the source language (English) into the target language (Chinese). Then, the researcher used a random probe technique, which is inexpensive, simple and practical and can supplement the meaning of the items. The researcher administered the drafted questionnaire to a group of Chinese speakers in the pre-test stage (Sub-section 5.4.6), and asked them to respond to the questionnaire and explain why their responses to individual items. The items were amended if respondents provided strange answers (Behling & Law 2000). The questionnaire was also commented upon by experts and peers in the pilot study. These procedures improved the quality of the questionnaire. The Chinese version of the questionnaire is shown in Appendix 5.3 and the English version of the questionnaire is shown in Appendix 5.4.

#### **5.4.5 Step five: executing a formal critical review – pilot test**

The purpose of this pilot test is to gather information on how to improve the questionnaire, such as to identify any oversights or inconsistencies and to ensure the questionnaire's quality (McDaniel & Gates 1999). To minimise the difficulties in completing the questionnaire and to encourage more respondents to participate, a thorough pilot test was conducted to detect and remedy any problems and weaknesses in the questionnaires. Experts in academic research and peer group of PhD candidates screened the questionnaire.

In this study, five academic experts with experience in and knowledge of networking assessed the initially developed items. Each of them provided a short but detailed summary of his or her views on the questionnaire. Experts were also asked to indicate whether there were any inadequacies in the items along with the definitions, underlying theoretical concepts representing each latent variable that might have been missed, additional items that should be added, items that poorly capture each variable that should be eliminated or modified, instructions or orders of items that were unsatisfactory, or any other problems (Bagozzi 1994a; Lee, Pae & Wong 2001). Moreover, experts were asked whether the questionnaire provided sufficient information to respondents on the purpose of the study and whether informed consent to participate had been obtained (Bagozzi 1994a). In addition, five people from a peer group of PhD candidates were invited to comment on whether or not they understood all the terms and items. The questionnaire was found understandable by all the peers and satisfied all of the experts.

#### **5.4.6 Step six: performing a pre-test**

After eliciting the opinions from the experts and peers, a small pre-test was conducted to provide worthwhile data and direction for the full-scale study (Redfern & Davey 2003). The pre-test was helpful in validating the questionnaire, interpreting the results and more importantly, in increasing response rates, reducing the amount of missing data and obtaining more valid responses on the final questionnaire (Schwab 2005).

In this research, the criteria for selecting the group of respondents for pre-testing were based on the manufacturing nature of the firm and was selected on a convenience basis, as was customary for pre-tests (Sekaran 2003; Sullivan & Kang 1999; Zikmund 2003). Convenience sampling methods designate samples in terms of the opportunities available to the researcher, without applying any particular criteria. This method can be sufficient, as it facilitates and accelerates data collection (Royer & Zarlowski 2001) and ensures that the sampling units are accessible and more co-operative (Malhotra & Peterson 2006).

The pre-testing was administered among a group of selected firms from the target population. Twenty clothing manufacturing companies were approached personally by the researcher to obtain their contacts during 'Fashion Week' (Hong Kong Fashion Week 15 July, 2005). Hong Kong Fashion Week is a leading international fashion trade fair in Asia that is organised by the Trade Development Council (TDC) every January and July at the Hong Kong Convention and Exhibition Centre. It promotes the Hong Kong clothing industry and attracts buyers from the Chinese mainland, the United States, Japan, Taiwan, and other countries.

The study's purpose was first explained to the respondents and respondents' name cards were collected. They were informed that a telephone call would be made within a month to schedule an appointment for an interview in conducting a pre-test study. Twenty on-site interviews were completed and verbal approval of informed consent from the participant was given before the interview started.

Moreover, *content validity* was assured as respondents had to complete the questionnaire and express their concerns related to the questionnaire (Lee, Pae & Wong 2001). The on-site interviews helped to tailor the questionnaire to participants' ability to respond and to gather relevant information on how to ask the questions (Dillman 2007). First, respondents were asked to review the questionnaire and explain whether they understood the whole questionnaire. Then, they were asked to explain the meaning of each question. Their explanations were checked as to whether the explanations were consistent with the conceptual meaning of the constructs.

Next, they were encouraged to comment on the language and clarity of each question as well as the overall format of the questionnaire. At the same time, they were asked to suggest additional items if they thought that the items had not been covered in the domain of the variable, and/or to drop any items that were perceived as redundant or inappropriate. Finally, they were asked to provide comments on the space at the end of the questionnaire. The information collected improved the questionnaire's wording, clarity and relevance (Lee & Dawes 2005; Tracey, Vonderembse & Lim 1999).

Based on the results from the pre-test, a few items were reworded to increase their clarity. For example, 'asset specificity' was changed to 'dedicated investment'. Special attention to the items for the dimensions of *guanxi* was given and several items were revised in accordance with respondents' feedback (mainly Chinese wording). In general, it appeared that respondents had no difficulties in understanding the items and the instructions provided to complete the questionnaire. Subsequently, the revised questionnaire was sent to the 900 companies on the name list from *The Hong Kong Business Directory*, which was discussed in Section 5.5 (Apaclink 2004).

#### **5.4.7 Step seven: arranging the questionnaire**

In this research, care was taken when administering the questionnaire survey in order to achieve a higher response rate. Remedies, such as phone calls were made before questionnaires were sent to respondents; an incentive, which was a brief report of findings, will be given to participants (Sub-section 5.5.5); and careful questionnaire design was assured (Sub-section 5.4.4), so as to maximise the response rate for this research and achieve the advantages of the mail survey method (Sub-section 5.3).



The validity of responses was discussed. Response bias occurs when respondents answer questionnaire items with a certain slant (Zikmund 2003) and it usually occurs in four situations. First, *social desirability* appears when respondents give answers that they think are socially acceptable, regardless of their true feelings (Malhotra 2004; Podsakoff et al. 2003). It may produce spurious relationships that mask the true relationships among variables (Podsakoff et al. 2003). In this research, a mail survey does not involve any social interaction between the interviewer and the respondent, so it is less susceptible to social desirability. This method is good for obtaining sensitive information relating to financial or personal information (Fowler 1988; Malhotra 2004). The social desirability effect was minimised by reminding the respondents in the introductory part of the survey that anonymity and confidentiality of their answers were assured (Podsakoff et al. 2003). Additionally, the construct measures the organisation's attitude towards strategic networking with suppliers, so respondents expressed their opinions on behalf of the organisation rather than on their own behalf.

Similarly, the *acquiescence response*, the tendency to agree or disagree with a statement regardless of its content (Schwab 2005; Zikmund 2003), could also influence this research. To minimise its influence, respondents were given no indication of the most desirable answers by the researcher and were encouraged to answer honestly (Alreck & Settle 2003; Podsakoff & Organ 1986).

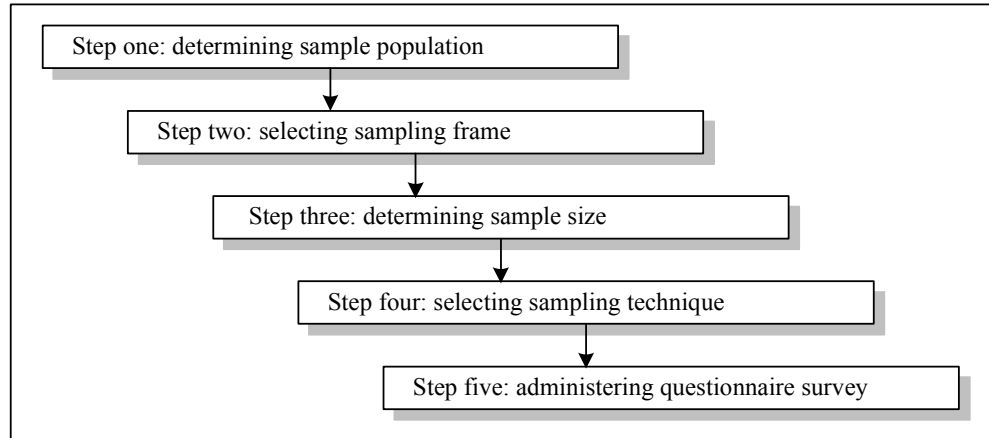
In turn, positive or negative *affectivity* bias is a mood-dispositional dimension reflecting emotional states which could serve as an inflator, suppressor or moderator variable (Lockhart & Russo 1994). At the end of the questionnaire, a space was provided to respondents where they could write freely about whatever they wished (Lockhart & Russo 1994).

Finally, the level of *questionnaire difficulty* affects the validity of the responses to the degree that respondents failed to understand the instructions, specific questions and response alternatives (Lockhart & Russo 1994). To reduce its impact, questions were kept simple, specific, concise, and focused, Double-barreled questions, that is, a statement with more than one meaning or involved more than one concept, were avoided. Attention was also given to questionnaire design (Sub-section 5.3.5) and pre-testing procedures (Sub-section 5.3.7).

## 5.5 Survey and sampling

In this part, five steps involved in survey and sampling were discussed: (1) a description of sampling population, (2) how samples are selected, (3) how to determine sample size, (4) how to select the sampling frame, and (5) how to administer the questionnaire survey. The five steps are illustrated in Figure 5.3.

Figure 5.3 The survey design and sampling method used in this research



Source: adapted from Malhotra (2004), Sekaran (2003).

### 5.5.1 Step one: determining sample population

The sample population for this study came from the clothing manufacturing industry. Although the effect of antecedent-adoption-transaction performance relationship in the strategic network has not been conclusively established, selecting the population of one industry offered a reasonable basis for comparison and minimised the potential for extraneous influences deriving from environmental variables such as market uncertainties and buyer influence (Bheda, Narag & Singla 2003; Ngai & Ellis 1998). In Hong Kong, clothing manufacturing industries provide a variety of distinct products ranging from high-end fashion, pricey, up-market fashion items to inexpensive clothing, basic casual wear and sports wear, counteracting the risk of selecting a sample that was too homogeneous (Jin 2004; Ngai & Ellis 1998).

The sample population for this research is the Hong Kong clothing manufacturing companies that make knitted and/or woven articles. They had to have offices in Hong Kong and a business registration under the HSIC code (Hong Kong Standard Industrial Classification Code). According to the Census and Statistics Department, 1553

establishments were in the Hong Kong clothing manufacturing sector in March of 2007 (HKCSD 2006, 2007b). The HSIC code of clothing manufacturing includes 3201 (outer garments including infants' wear and garments, except knitwear from yarn and leather garments), 3202 (undergarments and night garments) and 3276 (knit outerwear). The number of clothing manufacturing firms by sector in 2006 is shown in Table 5.6.

Table 5.6 Number of clothing manufacturing firms by sector in 2006

HSIC code (1)	Industry sector	No. of establishments, December 2006 (2)
3201	Outer garments incl. infants' wear and garment (excl. knitwear from yarn and leather garments), manufacturing	1037
3202	Under garments and night garments, manufacturing	43
3276	Knit outerwear (excl. garment not knitted, raincoat, leather garment), manufacturing	473
	Total:	1553

Notes:

- (1) HSIC denotes Hong Kong Standard Industrial Classification
- (2) This statistics shown here refer to establishments, instead of enterprises. An establishment is defined as an economic unit which engages, under a single ownership or control, in one or predominantly one kind of economic activity at single location, such as, an individual factory workshop, retail shop and office. On the other hand, an enterprise refers to a collection of establishments under the same ownership or control performing the production activities in pursuit of business objectives of the enterprise. Therefore, statistics on small and medium establishments are crudely used to reflect the situation of SMEs.

Source: HKCSD (2006) (HKCSD 2006).

### 5.5.2 Step two: selecting sampling frame

The second step is to select the sampling frame, which consists of a list of elements or directions from which a representative sample may be drawn (Fowler 1988; Malhotra 2004; Sekaran 2003; Zikmund 2003). Clothing manufacturing firms in Hong Kong were chosen as the sample (Conway 1997; Rouette, Fischer-Bobsien & Carl-Heinz 2001). The Hong Kong Industry Department (2000) defines a Hong Kong manufacturing firm as an organisation that transforms raw material (fabric) by machines or by hand into products (garments). Such a firm handles either part or all of its manufacturing processes locally. Non-production members, such as merchandisers and accountants, are considered to be manufacturing employees.

Since the opening of China's market in the 1980s, many firms have been shifting their raw materials and clothing manufacturing operations to China and other low-cost countries. The firms retained their positions only in high value-added operations such as design, trading and marketing at their Hong Kong headquarters. Therefore, an organisation that provides products or services purely by buying, selling, or trading is regarded as a non-manufacturing firm and these firms were not included in the study. An organisation with an office or headquarter in Hong Kong, coordinating its manufacturing operations in China or other countries was regarded as a manufacturing firm and was included in the study.

The clothing manufacturing companies to be included in the survey were chosen from *The Hong Kong Business Directory* (Apaclink 2004). This semi-official industrial directory lists about 900 Hong Kong clothing manufacturing companies of HSIC code – 3201, 3202 and 3276. This group of 900 companies represents approximately 58 per cent of all clothing manufacturing firms (1553, Table 5.6) officially registered in 2006 in Hong Kong (HKCSD 2007b). The information the *Directory* consists of company name, address, telephone number, fax number, contact person, contact person's position, and number of employees. However, the problem of sampling frame errors should be considered. There is high volatility in business, and companies in Hong Kong often change their office locations. Therefore, the mailing addresses in the *Directory* may be outdated, unavailable, or incomplete (Malhotra 2004). The high personnel turnover rate also means that top executives frequently change. Hence, many questionnaires may be undeliverable (Yeung 1995).

### **5.5.3 Step three: determining sample size**

According to Sudman (1976), the sample size for large-scale quantitative institutional research, with no subgroup analysis and within a region, that is, Hong Kong, is at least 50 to 200 (Table 5.7). Based on previous experience of researchers, most of the firms in this industry are reluctant to participate in academic research (Moon 1999). Hong Kong executives work long hours under considerable pressure, therefore, rarely respond to mail surveys (Leung, Wong & Wong 1996).

The response rate reported by other researchers in Hong Kong ranges from 15 per cent (Davies et al. 1995; Leung, Wong & Wong 1996) to 40 per cent (Lee, Adam Jr & Tuan 1999). This response rate is consistent with reported studies from the United Kingdom, the United States and Portugal, with a response rate of about 10 per cent (Bhatt 2000; Gomes, Yasin & Lisboa 2006; Valsamakis & Sprague 2001). Moreover, Harzing's (1997) study showed that the average response rate in Hong Kong is 7.1 per cent; this is the lowest among 22 countries. Such a low response rate may lead to nonresponse bias because responding to a mail survey is based on the respondent's interest in the topic (Malhotra 2004). According to Yeung (1995), a response rate of around 15 per cent can be reached if telephone reminders are made.

Table 5.7 Typical sample sizes for studies of institutional populations

Number of subgroup analyses	Institutions	
	National	Regional or special
None or few	200-500	50-200
Average	500-1000	200-500
Many	1000 +	500 +

Source: Sudman (1976, p. 87).

Therefore, 900 questionnaires were sent using all the contact details from the *Directory* (Apaclink 2004). Assuming that a conservative response rate of about 20 per cent could be reached, 900 questionnaires were able to provide about 180 usable returned questionnaires. Experienced researchers would consider 100 respondents to be the minimum sample size when the population is large (Alreck & Settle 2003), so 180 responses would be regarded as a sufficient sample size for this population. The sample size required in structural equation modelling will be further explained in Sub-section 6.5.2.

#### 5.5.4 Step four: selecting sampling technique

In this survey, no specific sampling technique was employed because all the 900 companies were selected from *The Hong Kong Business Directory* (Apaclink 2004) in order to obtain an anticipated response rate of 180 responses. The response rate is discussed in the next sub-section.

### 5.5.5 Step five: administering questionnaire survey

All the 900 companies listed in the *Directory* were contacted, enabled the researcher to locate 820 companies (91 per cent of the 900). Nine per cent of the sample was not reached due to incorrect telephone contacts. In this step, a *presurvey screening process* was undertaken, in which the sample was evaluated on the basis of their knowledge of or involvement with the focal firm (Heide & Miner 1992). Among all remaining contacts, one person from each company listed on the Directory was contacted. If the people contacted were not from the production, planning and control departments, they were asked to introduce one main person from these departments (Campbell 1955). The single respondent approach has the advantage of anonymity, which gives the respondent a feeling of identity protection and risk reduction so that he or she could respond candidly (Kohli 1989; Lai, Bao & Li 2007). The choice of respondents was based on their (1) involvement in the fabric purchase decision; (2) influence over the purchase decision; (3) direct dealing with fabric supply companies; and (4) purchasing relationships with those fabric suppliers (Doney & Cannon 1997; Zaheer, McEvily & Perrone 1998). In addition, the selected respondent had to be willing to communicate with the researcher and to agree verbally to complete the questionnaire.

The telephone contacts, which elicited responses from 724 people (88 per cent of the 820), were used to ensure that the respondents met the knowledgeability criteria and verbally agreed to take part in the survey. The remaining 12 per cent of the 820 manufacturing firms was not sampled. In some cases, the contact persons could not be reached because they had left the organisation and no one else was identified as knowledgeable enough to take the survey. Another reason was that the contact persons were not eligible for the study on the basis of the criteria (that is, participating in networking relationships with suppliers). Finally, a small group of firms (5 – 10 per cent) refused to participate for reasons of confidentiality, company policy, or because the head office was based in China instead of in Hong Kong.

After the telephone contacts were established, questionnaires in Chinese were mailed to the 724 key informants who had agreed to participate in the study. The telephone contacts confirmed that all respondents were Chinese. Each of the 724 managers also received a personal letter as shown in Appendices 5.1 and 5.2, which assured informed consent, explained the purpose of the questionnaire, stated the importance of the response and promised confidentiality (Dillman 2007; Frazer & Lawley 2000). A copy

of the survey results was promised to send to them. The personalised letter with the actual contact person addressed gave the recipients the impression that the researcher was polite (Dillman 2007).

The first page of the questionnaire mentions the research topic and institution name. To maximise the response rate, respondents were assured on the second page that all of their responses would be confidential and only aggregated results would be presented. In addition, an executive summary of this study's results would be offered as an incentive to participate (Lee, Pae & Wong 2001; Ray, Barney & Muhanna 2004). The second page also stated that participation was voluntary and the participants had the right to withdraw at any time. This page, which explained the research purpose, benefits, a stamped return envelope and contact information, was brief, personalised and positively worded (Dillman 2007). The name, affiliation and contact details of the researcher appeared on the second page. Questionnaires were to be returned directly to the researchers in pre-addressed, postage-paid envelopes provided with the survey to emphasise the academic control of the information.

The set of hypotheses in Chapter 4 was derived under the assumption that the unit of analysis was the manufacturing company's relationship with a single supplier with whom the manufacturing company had established what it considered to be a strategic network (Monczka et al. 1998). On page three of the questionnaire, respondents were asked to identify one *strategically important fabric supplier* that provided their companies with fabric used in the final garments and constituted a large percentage of their business (Campbell 1992).

The first mailing of the questionnaire was done during January 2007. The respondents were given one month to respond. Follow-up calls were conducted in February to encourage non-responding firms to complete the questionnaire (Yeung 1995). Data obtained from questionnaire were to be supplemented by telephone verification if necessary. A second mailing was sent again to those who had not returned their questionnaires during the first mailing.

The response rate after follow-up calls and a second mailing yielded a final response rate of only 23 per cent (168 returned questionnaires), which was considered satisfactory and was higher than other business research from the United Kingdom,

Portugal and the United States (Bhatt 2000; Gomes, Yasin & Lisboa 2006; Harzing 1997; Valsamakis & Sprague 2001).

Moreover, the nature of networking relationships, such as trust, *guanxi* and other issues related to this study, requires hands-on experience and knowledge of networking activities and is not possible to obtain from the secondary sources. Therefore, this sample provides a richer source of information than do other large-scale samples. A non-response bias was checked to confirm the representativeness of the sample and will be discussed in Section 6.4.

## 5.6 Data analysis strategy

This part discusses the methodology of data analysis used in this research, with detailed analysis and specific application of statistics described in the next chapter.

***Summarising statistics.*** Firstly, the Statistical Package for Social Scientists (SPSS) was used to analyse the data obtained from the questionnaire survey (Norusis 2004). The data were checked using descriptive statistics to provide a summary for each key research variable. In this study, descriptive statistics described data in terms of their organisational and individual attributes, such as major product type, firm size, annual sales volume and other demographic details. Statistics obtained from descriptive statistics consist of mean score, frequency, percentages and standard deviation in describing the characteristics of respondents and firms, and to provide general information of each variable for conducting multivariate analysis (Hair et al. 2006; Malhotra 2004; Sekaran 2003). Then, in order to determine whether the relationships in the proposed models were as expected, correlations were calculated as precursors to SEM.

***Statistical justification of structural equation modelling.*** Structural equation modelling (SEM) is a statistical methodology that uses a confirmatory approach to analyse the structural theory on a phenomenon (Byrne 2001). SEM is a more powerful tool than other multivariate techniques because it tests hypotheses and examines structural relationships among latent and observed variables by estimating a set of separate multiple regression equations simultaneously (Baumgartner & Homburg 1996; Hair et al. 2006; Hoyle 1995). The application of this analytical technique has been widely used



by researchers for the last 20 years and it is one of the most popular and widely used instruments in most leading marketing and management journals (Baumgartner & Homburg 1996; Moore & Fairhurst 2003; Steenkamp & Baumgartner 2000; Stump & Heide 1996).

SEM is so popular because it draws a clear distinction between unobserved, theoretical constructs and fallible, empirical measures (Steenkamp & Baumgartner 2000). For instance, a confirmatory measurement model 'specifies the relations of the observed measures to their posited underlying constructs, with the constructs allowed to intercorrelate freely' (Anderson & Gerbing 1988, p. 411). A full SEM identifies the key variables in a combination of theory as latent constructs and represents the hypotheses among variables in a network of causal or functional paths (Bagozzi 1994b). These paths specify the structural equations among the variables in a model.

Moreover, SEM is an appropriate technique to capture the effects of measurement errors (Hair et al. 2006). Other techniques such as R square ( $R^2$ ) of multiple regression is 'not a good measure of model validity as the parameter estimates and their significance vary dramatically over different amounts of error in the exogenous variables' (Steenkamp & Baumgartner 2000, p. 198). The reason is that  $R^2$  does not change significantly with different degrees of measurement error (Steenkamp & Baumgartner 2000). Indeed, some degree of measurement error is always present because a concept cannot be perfectly measured in both practical and theoretical perspectives (Hair et al. 2006). SEM solves this problem by modelling the relationships between measured and latent variables in a measurement model which accounts for measurement error (Bollen 1989; Hair et al. 2006). SEM also provides a significance test of parameters and an estimate of the predicted change in the freely estimated parameter. Therefore, SEM is useful for theory testing and acts as a key phase in developing marketing models (Steenkamp & Baumgartner 2000). In this research, SEM was used to develop a manufacturer-supplier strategic networking model.

In addition, SEM is a confirmatory method mainly guided by theory instead of empirical results, therefore, theory is needed before specifying the relationships in both measurement and structural model, modifying the proposed relationships and identifying other aspects of estimating a model (Hair et al. 2006). In this research, the literature reviewed in Chapter 2, the results from the case research in Chapter 3 and a

theoretical framework proposed in Chapter 4 provide a comprehensive list of probable variables and their associations. Subsequently, the causal relationships of research variables in the structural model are tested using SEM techniques in Chapter 6, that includes the relationships among antecedents of strategic networking, intensity of collaborative relationships and transaction costs.

The Analysis of Moment Structures (Amos) SEM package, which can analyse mean and covariance structures (Arbuckle 2003), was chosen for this research. This program can be directly linked to SPSS which was used to summarise statistics. It has a user-friendly graphical interface and can display estimates graphically in a path diagram, which is superior to the traditional programming interface of other packages such as Lisrel and EQS (Byrne 2001). The limitation to non-ordinal data of Amos did not affect the data analysis for this research because all the data were interval and ratio (Sub-section 5.4.2).

## **5.7 Ethical considerations**

Consideration of ethical issues was given to all stages of the research design process. First, *informed consent* was involved. On the second page of the questionnaire (Appendix 5.4), the respondents understood the reason for the research and surrendered their rights to privacy when they agreed to participate in the research study (Zikmund 2003).

Then, there is an obligation for the researcher not to disclose respondents' names to other parties in order to ensure the confidentiality of information provided (Fowler 1988; Malhotra 2004; Podsakoff et al. 2003). In this research, in the beginning of the case research and on the second page of the questionnaire, anonymity and confidentiality of answers were ensured in order to obtain respondents' participation. Respondents were also advised of the survey purpose, encouragement to respond, incentives for participation, the voluntary nature of participation, and the right to withdraw at any time (Dillman 2007). Respondents were promised to offer a summary of the results.

In addition, the results generated from this study were reported in the form of aggregated means, ensuring that individual respondents' views and opinions were treated anonymously. Finally, respondents were promised that the data collected were not going to be used for commercial purposes. In brief, the ethical considerations in this research were adequate.

## **5.8 Chapter conclusion**

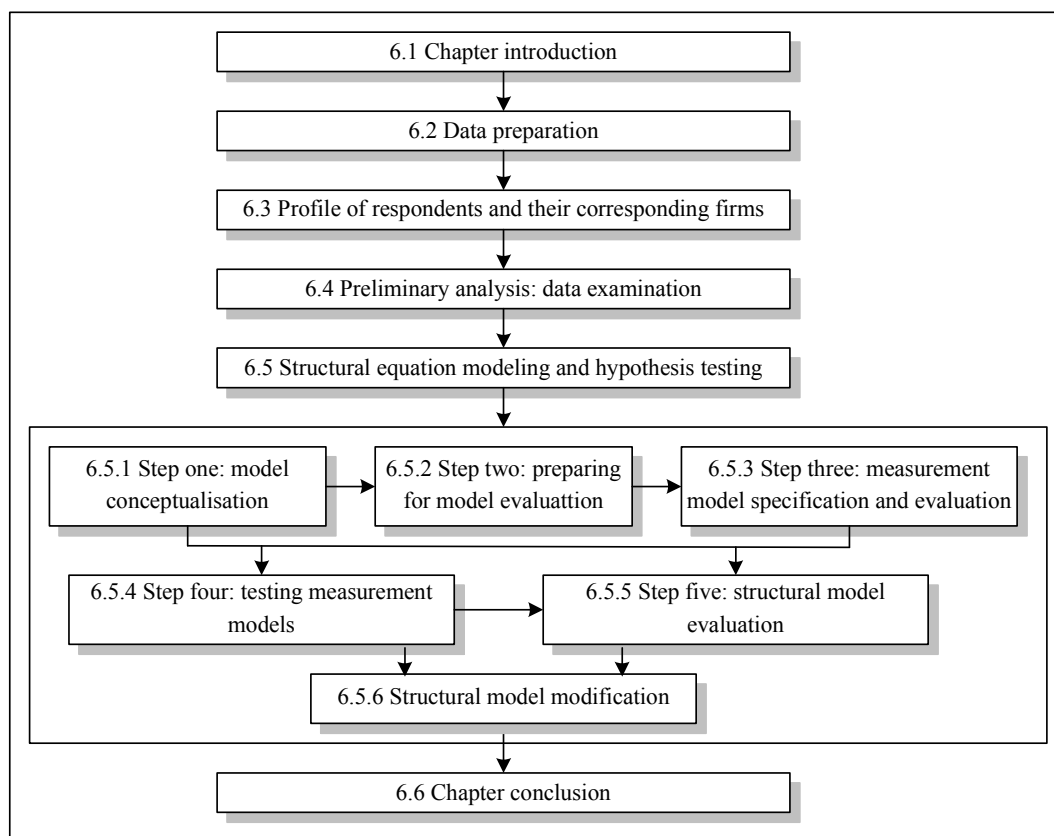
This chapter justified the research design, and explained the steps taken in the questionnaire design and survey sampling for the second stage of the research. Specifically, the conceptual and operational definitions underlying all the model constructs were described. The research instrument and format of responses were developed and the validity and reliability of the survey instrument were established. Data analysis methods were justified. Finally, ethical considerations relating to the data collection method were discussed. In the next chapter, the collected data will be analysed and presented in relation to the research problem.

## *Chapter 6 Study two: survey research data analysis*

### 6.1 Chapter introduction

The previous chapter describes the methodology used to collect the data for Study Two. This chapter reports how the data were prescreened, examined and analysed. This chapter has six sections, as shown in Figure 6.1. Section 6.1 introduces the chapter. Section 6.2 describes the data preparation procedure, including the procedures used for data coding, cleaning and screening. Then, Section 6.3 presents the profile of the respondents and their firms to establish the representativeness of the sample. Next, Section 6.4 shows the preliminary analysis of data to account for things such as missing data, non-response error, outliers and normality of the distribution. Then, in Section 6.5, hypotheses are discussed in their order of presentation in Chapter 4, using a structural equation model, and the conclusion of this chapter follows in Section 6.6.

Figure 6.1 Outline of Chapter 6, with section numbers and their interrelationships



Source: developed for this research.

## **6.2 Data preparation**

After the data were collected, they needed to be edited before being analysed. Data preparation involved the process of translating the data into a form appropriate for analysis by computer (Fowler 1988). Data preparation was completed through the process of data editing, coding, cleaning and screening (Fowler 1988; Malhotra 2004).

### **6.2.1 Questionnaire editing**

The first step in data preparation was questionnaire editing, which involved the process of making data ready for coding and storage. The purpose was to ensure the completeness, consistency and reliability of data (Aaker, Kumar & Day 2007; Malhotra 2004; Zikmund 2003). In this research, errors and omissions in the questionnaires were checked no data were found to be missing. Respondents answered and returned the questionnaire on a voluntary basis; therefore, of the 168 questionnaires collected, none of the questionnaires were considered unusable due to lack of completed responses.

### **6.2.2 Data coding and entering**

After the questionnaires were checked, data were coded by assigning number codes to represent the responses to each question on the questionnaire (Malhotra 2004; Zikmund 2003). Most of the responses on the questionnaire were precoded, except (a) those asking for open-ended answers as described in Sub-section 5.4.2, and (b) questions 2, 3, 4, 6, 7, 19 and 22 (shown in Appendix 5.3 and 5.4), which asked for information such as the number of suppliers and years of doing business with the key suppliers. Two questions were negatively worded, so the items had to be reversed in order to match the direction of the positively worded questions (that is, Q11a, transaction costs and Q14e, trust). After the completion of this process, data were entered into SPSS version 12 (Sekaran 2003).

### **6.2.3 Data cleaning and screening**

The last process of data preparation was data cleaning and screening. This ensured that the data had been transcribed accurately from the questionnaires and had been checked for inconsistent responses and missing responses by computer (Malhotra & Peterson 2006). Two methods were employed to clean and screen the data. First, inconsistent responses were checked for by running frequencies using SPSS for every variable; this

identified data that were out of range, that had extreme values or that were missing (Malhotra & Peterson 2006). Some minor data entering errors were found and corrected by referring back to the original questionnaires.

Second, every tenth questionnaire was manually checked against the original questionnaire for incorrect entries of responses. No errors were found in this checking process. In brief, the process of data cleaning and screening was done to ensure that the data were error-free before running the model.

### 6.3 Profile of respondents and their corresponding firms

After the procedure of data cleaning and screening, the first step in data analysis was to analyse and tabulate the data. This involved counting the number of cases that fall into various categories and calculating the frequency distribution of both the variable and the descriptive statistics, particularly the mean or percentages regarding the respondents and their corresponding firms (Aaker, Kumar & Day 2007). The demographic characteristics of the respondents and their firms are also described in this section.

In this study, all 168 responding firms were clothing manufacturing companies. Moreover, telephone contact with respondents revealed that all respondents were Chinese; further, no problem was found concerning the ability of the respondents to understand the meaning of specific word or phrases, especially the Chinese term, *guanxi*. The characteristics and profiles of the respondents and their corresponding firms, as well as their years of doing business with suppliers, are summarised in Table 6.1 and Table 6.2.

Table 6.1 Descriptive statistics of company and respondent profiles

Variable	Min.	Max.	Mean	SD
<b>Company profile</b>				
No. of employees (include office staff and workers)				
• in Hong Kong	3	910	43.92	119.72
• outside Hong Kong	20	23 000	1 192.58	2 880.00
Company's age	1	60	18.94	12.503
<b>Respondent profile</b>				
Year(s) of doing business with Supplier A	1	30	7.55	5.421
Respondent's working year(s) in the company	1	35	9.90	8.201

Source: analysis of field data.

Table 6.2 Frequency table for the company and respondent profiles

	Characteristics	No. of respondents	%
<b>Company profile</b>			
<b>1.</b>	<b>Number of employees (include office staff and workers) in Hong Kong:</b> <ul style="list-style-type: none"> <li>• under 20 employees</li> <li>• 21 – 100 employees</li> <li>• over 100 employees</li> </ul>	129 26 13	76.8 15.5 7.7
	<b>outside Hong Kong:</b> <ul style="list-style-type: none"> <li>• under 200 employees</li> <li>• 200 – 1 000 employees</li> <li>• 1001– 5 000 employees</li> <li>• over 5 000 employees</li> </ul>	37 90 35 6	22.0 53.6 20.8 3.6
<b>2.</b>	<b>Company's age</b> <ul style="list-style-type: none"> <li>• less than 10 years</li> <li>• 10 – 30 years</li> <li>• more than 30 years</li> </ul>	40 105 23	23.8 62.5 13.7
<b>3.</b>	<b>Average annual sales turnover for the past 3 years</b> <ul style="list-style-type: none"> <li>• under HKD10 million</li> <li>• HKD10 – 50 million</li> <li>• HKD51 – 100 million</li> <li>• HKD101 – 1 000 million</li> <li>• HKD1 001 – 5 000 million</li> <li>• HKD5 001 – 10 000 million</li> <li>• over HKD10 000 million</li> </ul>	27 64 43 25 6 3 0	16.1 38.1 25.6 14.9 3.6 1.8 0
<b>4.</b>	<b>Company category of responding firms</b> <ul style="list-style-type: none"> <li>• fully Hong Kong owned</li> <li>• fully China owned</li> <li>• fully overseas owned</li> <li>• joint venture</li> </ul>	136 18 8 6	81.0 10.7 4.8 3.6
<b>5.</b>	<b>Company category of major supplier</b> <ul style="list-style-type: none"> <li>• fully Hong Kong owned</li> <li>• fully China owned</li> <li>• fully overseas owned</li> <li>• joint venture</li> </ul>	88 53 13 14	52.4 31.5 7.7 8.3

Table 6.2 (continued)

	Characteristics	No. of respondents	%
<b>Respondent profile</b>			
<b>6.</b>	<b>Year(s) of doing business with major supplier</b>		
	• less than 2 years	5	3
	• 2 – 5 years	82	48.8
	• 6 – 10 years	56	33.3
	• more than 10 years	25	14.9
<b>7.</b>	<b>Respondents' position held in the company</b>		
	• owner	48	28.5
	• CEO/ managing director	16	9.5
	• general manager	23	13.7
	• departmental manager	45	26.8
	• senior merchandiser	29	17.3
	• others	7	4.2
<b>8.</b>	<b>Respondent's working year(s) in the company</b>		
	• less than 2 years	11	6.5
	• 2 – 5 years	65	38.7
	• 6 – 10 years	37	22
	• more than 10 years	55	32.8

Note:  $N=168$

Source: survey data collected for this research.

***Company size and employment.*** The size of a company was measured by the number of employees and, in this study, it included both office staff and workers. Staff were those who were responsible for managerial, marketing, merchandising and clerical jobs and workers were directly involved in the operational work of producing the product (Moon 2001). In this study, all companies had an office in Hong Kong. As shown in Table 6.1, the number of employees in Hong Kong ranged from 3 to 910, while the number of employees outside Hong Kong ranged from 20 to 23 000.

Referring to Table 6.2, the majority of the sample firms employed fewer than 20 people in Hong Kong (76.8 per cent, 129 firms). In contrast, most of the sample firms had more than 200 employees outside Hong Kong (78 per cent, 131 firms). This was because, in the past few decades, firms in the Hong Kong clothing manufacturing industry faced challenges in the form of factory closures, employment reduction and lack of government support (Lau & Moon 2007). Therefore, many factories, especially those requiring a large number of employees, had moved to China or other countries.



Moreover, according to the Hong Kong Trade and Industry Department (2000), small and medium enterprises (SMEs) are defined as manufacturing firms that recruit fewer than 100 local employees and non-manufacturing firms that employ fewer than 50. The Hong Kong clothing industry has a large number of small and medium-sized manufacturing and non-manufacturing firms. According to government statistics, over 98 per cent of the firms that engaged in the manufacturing and servicing sectors are SMEs (Hong Kong Trade and Industry Department 2000). In this research, the majority of the sample firms (92.3 per cent, 155 firms) had local employees fewer than 100 people, so most of them were considered to be SMEs (Table 6.2).

***Company's age.*** Company's age refers to the number of years that the company has been conducting business. According to Table 6.1, the responding firms had been in operation for an average of 19 years. More than three-quarters of the responding firms (76.2 per cent, 128 firms) had been established for over 10 years, while only 40 firms (23.8 per cent) had been established for less than 10 years (Table 6.2).

***Annual sales turnover.*** Of the 168 responding firms, more than three-quarters (78.6 per cent, 132 firms) had HKD10 to 1 000 million in average annual sales turnover, over the past three years, and nine firms had over HKD1 000 million (5.4 per cent) (Table 6.2).

***Company category of responding firms and their major suppliers.*** Among both the responding clothing firms and their fabric supply firms, most were fully Hong Kong owned companies: 136 of the responding firms (81 per cent) and 88 of the supply firms (52.4 per cent) (Table 6.2). However, more fabric supply firms (31.5 per cent, 53 firms) were fully China owned than were the responding firms (10.7 per cent, 18 firms) (Table 6.2). Because the quality of fabric produced by fabric suppliers in China is growing better, there is a growing trend to use fabric produced by Chinese firms.

***Years of doing business with major fabric supplier.*** According to Table 6.1, the responding firms had been doing business with their major suppliers for an average of 7.6 years. 48.2 per cent (81 firms) had over six years of relationships with major suppliers (Table 6.2). Among all, almost 15 per cent (25 firms) of the responding firms have had relationships with their suppliers for more than 10 years. This indicates that most respondents had developed long-term business experiences with their suppliers.

***Respondent's position in the company.*** Almost all respondents (95.8 per cent, 161 firms) were in a senior position at their respective companies, while only seven respondents (4.2 per cent) were not at a senior level (Table 6.2). Therefore, most of the respondents were knowledgeable regarding the buyer-supplier relationship and were appropriate for this study.

***Respondent's years working for the company.*** Lastly, over one third of the respondents had worked for their respective companies for two to five years (38.7 per cent, 65 firms), about one-third for more than 10 years (32.8 per cent, 55 firms) (Table 6.2), with one firm having a maximum of 35 years. The mean is 9.9 years (Table 6.1). In other words, respondents had many years of working experience in their companies, meaning that they were capable of completing the questionnaire.

Overall, the survey data suggested that respondents and their corresponding firms were appropriate representatives for this research as they had developed long-term business experiences with their suppliers. Therefore, the data were useful for this research.

## **6.4 Preliminary analysis: data examination**

Data examination was the first step in data analysis; it involved procedures designed to check the accuracy of the data and to gain a general picture of the phenomena under study (Hair et al. 2006; Malhotra 2007; Sekaran 2003). More specifically, preliminary analysis consisted of an evaluation of the impact of missing data, non-response error, identification of outliers and distribution normality (Hair et al. 2006; Malhotra 2007). It was conducted to ensure the suitability of the data for further statistical tests using the multivariate analysis technique of structural equation modelling with Amos (Arbuckle 2003).

***Missing data.*** Missing data primarily results from errors in data collection or data entry, or from the omission of answers by respondents (Hair et al. 2006). As described in the previous sections, questionnaires were screened (Sub-section 6.2.1) and data were scanned using SPSS (Sub-section 6.2.3) to check for missing data. No missing responses were found.

***Non-response error.*** Apart from missing data from respondents, it is also important to note the non-response error caused by differences between people who responded to the

survey and those who failed to respond (Vriens & Sinharay 2006; Zikmund 2003). This could be due to the refusal or inability to respond, or to inaccessibility of the respondents (Aaker, Kumar & Day 2007). This difference between respondents and nonrespondents on any variable implies that the questionnaire responses may not be generalisable to the target population (Armstrong & Overton 1977; Schwab 2005).

In this research, non-response bias was evaluated by comparing early respondents with late respondents, using the procedure introduced by Armstrong and Overton (1977) (Armstrong & Overton 1977; Carson et al. 2003; Kumar, Scheer & Steenkamp 1995a). The period between receipt of the early responses and receipt of the late responses was six months. The results from the Mann-Whitney U tests for early and late responses to this survey on the variables of the model are listed in Table 6.3. Seven variables, except size of supplier base, which is an observed variable, were used to compare the samples of early and late respondents. The probability values (p) were all greater than 0.05, indicating that differences in any of the variables between early and late respondents were statistically non-significant. To conclude, non-response error in this research did not appear to be a problem.

Table 6.3 Mann-Whitney U tests for non-response error, early versus late respondents

Variable	Survey questions (mean score)	Z score	2-tailed p	Is there significant difference between distributions of early vs late respondents ( $\alpha=0.05$ )
Commitment	Q13	-0.719	0.482	No
Trust	Q14	-1.591	0.142	No
Reputation	Q15	-1.608	0.120	No
<i>Guanxi</i>	Q16	-0.803	0.432	No
Asset specificity	Q12	-0.550	0.592	No
Relationship continuity	Q10	-0.085	0.967	No
Transaction cost	Q11	-0.171	0.902	No

Source: analysis of survey data collected for this research.

**Outliers.** An extreme response is referred to as an outlier. A response is extreme if there is a substantial difference between observations on one or more variables. Outliers may affect the results of any multivariate analysis (Hair et al. 2006; Hoyle 1995). Outliers usually occur because of errors in responding to the questionnaire items, because of data recording errors, or because some of the respondents represent a different population from the target population under study. The presence of outliers may dramatically affect

the indices of model fit, parameter estimates, standard errors and reliability (Hoyle 1995). In this research, outliers were checked by looking for the extreme cases in the data set in SPSS. Visual examination of the plots of each measured variable was conducted in order to identify cases that had standard deviations away from the mean of the distribution. No outliers were detected.

***Distribution normality.*** The next step was to assess the normality of the data for each of the constructs. Normality refers to the extent to which the distribution of the sample data corresponds to a normal distribution (Hair et al. 2006). Histograms, stem-and-leaf displays, probit plots or other graphical means can be used to investigate the approximate normality of the observed variables (Bagozzi & Baumgartner 1994). The univariate tests examine each continuous variable individually for deviation from normality (Diamantopoulos & Sigauw 2000). The normality of a distribution can also be assessed with a z test. The z-value's exceeding the critical value of +/- 1.96 and its corresponding significance level being equal to or greater than 0.05 indicates normality (Hair et al. 2006). Another way to assess normality can be identified by calculating standardised coefficients of skewness and kurtosis. The distribution is univariately normal if the values of skewness and kurtosis are zero (Tabachnick & Fidell 2007). *Skewness* specifies how symmetrical or asymmetrical the distribution of a variable is, relative to a normal distribution, while *kurtosis* examines the peakedness or fatness of a distribution and how much mass the distribution tails hold (Bagozzi & Baumgartner 1994; Schwab 2005).

In this study, the normality of all variables was tested at a univariate level using Amos. There are guidelines suggesting that if the distribution of a variable is symmetrical, the skewness will be zero (Bagozzi & Baumgartner 1994). Those absolute values of univariate skewness indices that have values greater than 3.0 are regarded as extremely skewed (Chou & Bentler 1995; West, Finch & Curran 1995). In addition, those absolute values of the kurtosis index that are greater than 10 may suggest a problem and values greater than 20 may indicate a more serious problem (Hoyle 1995; Kline 2005). If the distribution is approximately normal, maximum likelihood and generalised least-squares estimation and testing are applicable (Bagozzi & Baumgartner 1994). In this study, all the variables had values of skewness less than 3.0 and had values of kurtosis less than 10 as shown in Table 6.4 and so univariate normality appeared to exist.

Table 6.4 Assessment of univariate normality

Variable	Min	Max	Skew	Critical ratio	Kurtosis	Critical ratio
<b>Commitment</b>						
• OperationCommt	1	5	-0.542	-2.867	-0.444	-1.175
• TailorRequirement	1	5	-0.108	-0.573	-0.988	-2.615
• FlexibleSpec	1	5	-0.310	-1.640	-0.877	-2.320
• FlexibleSchedule	1	5	-0.451	-2.389	-0.585	-1.549
<b>Trust</b>						
• ReliablePromise	2	5	-0.820	-4.337	1.193	3.157
• Predictable	2	5	-0.498	-2.638	0.513	1.358
• ReliableInfo	2	5	-0.648	-3.429	0.744	1.968
• Trustworthy	2	5	-0.620	-3.280	0.556	1.471
<b>Reputation</b>						
• ConcernCommu	1	5	-0.595	-3.149	0.304	0.805
• ExcellentReturn	1	5	-0.389	-2.057	0.325	0.861
• ResourceUse	2	5	-0.168	-0.889	-0.297	-0.785
• AttractiveManu	1	5	-0.594	-3.142	0.655	1.734
• AttractSup	1	5	-0.502	-2.656	0.219	0.579
• GmtDevelop	1	5	0.126	0.666	-0.753	-1.993
<b>Guanxi</b>						
• FavourReciprocate	1	5	-0.543	-2.871	-0.167	-0.441
• HelpReciprocate	1	5	-0.510	-2.699	-0.212	-0.560
• Convenience	1	5	-0.857	-4.533	0.410	1.085
• Mianzi	1	5	-0.429	-2.268	-0.451	-1.193
• Brotherhood	1	5	-0.380	-2.009	-0.719	-1.903
<b>Asset specificity</b>						
• Schedule	1	5	-0.281	-1.487	-0.910	-2.406
• SameFabric	1	5	0.342	1.812	-0.813	-2.152
• Staff	1	5	0.008	0.043	-0.797	-2.109
• Experience	1	5	0.022	0.119	-0.984	-2.604
<b>Relationship continuity</b>						
• FutureWork	1	5	-0.747	-3.954	1.382	3.657
• LongtermDevelop	1	5	-0.916	-4.849	0.977	2.586
• OpenendInvolve	1	5	-0.783	-4.143	0.276	0.731
• LifeLongPartner	1	5	-0.671	-3.550	0.072	0.189
<b>Supplier base</b>	1	13	1.156	6.117	0.636	1.683
<b>Transaction costs</b>						
• ContractTC	1	5	0.473	2.504	-0.545	-1.442
• MonitorTC	1	5	0.427	2.260	-0.646	-1.710
• EnforceTC	1	5	0.203	1.076	-1.016	-2.689

Source: analysis of survey data.

## 6.5 Structural equation modelling and hypothesis testing

In this section, the use of structural equation modelling (SEM) for testing the hypotheses related to this research is discussed. There are six steps of SEM synthesised from leading experts of Arbuckle (2003, 2006), Byrne (2001), Baumgartner and Homburg (1996), Diamantopoulos (1994), Diamantopoulos and Siguaw (2000), Hair et al.(2006), Holmes-Smith, Cunningham and Coote (2007), Kaplan (2000), Kline (2005) and Tabachnick and Fidell (2007). These steps are to be completed by using the software Amos 5.0 and are shown in Table 6.5.

Table 6.5 SEM steps applied in this research

<b>Steps</b>	<b>Sub-section(s) applied in this research</b>
<b>Step 1: Model conceptualisation</b> <ul style="list-style-type: none"> <li>• Structural model</li> <li>• Measurement models</li> </ul>	Sub-section 6.5.1
<b>Step 2: Preparing for model evaluation</b> <ul style="list-style-type: none"> <li>• Choice of estimation method</li> <li>• Justification of using bootstrapping approach</li> <li>• Justification of adopting covariance matrix</li> <li>• Determination of using a two-stage approach</li> <li>• Model identification</li> </ul>	Sub-section 6.5.2
<b>Step 3: Measurement model evaluation and specification</b> <ul style="list-style-type: none"> <li>• Deciding goodness of fit criteria</li> <li>• Estimates for evaluating one-factor congeneric measurement models</li> </ul>	Sub-section 6.5.3
<b>Step 4: Testing measurement models</b> <ul style="list-style-type: none"> <li>• One-factor congeneric measurement models</li> <li>• Model-based measures of reliability and validity</li> </ul>	Sub-section 6.5.4
<b>Step 5: Structural model evaluation</b> <ul style="list-style-type: none"> <li>• Estimating structural model</li> <li>• Testing hypotheses of the model</li> </ul>	Sub-section 6.5.5
<b>Step 6: Structural model modification</b> <ul style="list-style-type: none"> <li>• Examining critical ratios (t-values)</li> <li>• Examining modification indices</li> </ul>	Sub-section 6.5.6

Source: synthesised from Arbuckle (2003, 2006), Byrne (2001), Baumgartner and Homburg (1996), Diamantopoulos (1994), Diamantopoulos and Siguaw (2000), Hair et al.(2006), Holmes-Smith, Cunningham and Coote (2007), Kaplan (2000), Kline (2005) and Tabachnick and Fidell (2007).

### **6.5.1 Step one: model conceptualisation**

The first step of SEM in this research was model conceptualisation, which involved the initial formulation of a structural model specifying the statistical statement about the directional relations among the latent variables (Bollen 1989; Byrne 2001; Diamantopoulos & Siguaw 2000; Hair et al. 2006; Hoyle 1995; Kaplan 2000; Kline 1998). In this research, the latent variables in the structural model were developed based on the theoretical framework from the literature review in Chapter 2 and case research from Chapter 3. Then, in the framework, the indicator variables or operational items of the constructs, were classified into exogenous variables (that is, independent variables) and endogenous variables (that is, dependent variables) (Hair et al. 2006), as described in Chapter 5.

The next stage in model conceptualisation focused on using a set of empirically operationalised indicators or observed variables for each of the measurement models of each construct. Those indicators took on the form of reflective indicators, for which the latent constructs caused the observable variables or indicators (Diamantopoulos & Siguaw 2000). Multiple indicators were used to operationalise both exogenous and endogenous latent variables depending on their reliability and construct validity (Baumgartner & Homburg 1996; Churchill 1979; Diamantopoulos & Siguaw 2000). The indicators used to measure the constructs in this model were described in Chapter 5 (Sub-section 5.3.1).

Moreover, a single indicator cannot adequately capture the latent variable, whereas multiple indicators increase the reliability of the latent variable and help to parce out the degree of unreliability in the measurement (Diamantopoulos & Siguaw 2000; Holmes-Smith, Cunningham & Coote 2007). The practical number of indicators for each latent variable ranges from three to about ten (Diamantopoulos 1994; Diamantopoulos & Siguaw 2000; Tabachnick & Fidell 2007). In this research, the number of indicators for each latent variable ranged from four to seven; most of them were adopted from previous research as shown in Sub-section 5.3.1.

### **6.5.2 Step two: preparing for model evaluation**

The second step in the SEM process is to prepare for model evaluation. A series of decisions such as the choice of the estimation method, justification of using bootstrapping approach, justification of adopting covariance matrix, the determination of using a two-stage approach of SEM, and model identification are discussed in this sub-section.

#### **Choice of estimation method**

The first issue in preparing for model evaluation is the identification of the nature of the data and the choice of the estimation method. In this research, the nature of the data was determined through data screening and examination, such as by detecting missing data, outliers, normality and linearity. This is examined and discussed in Sub-section 6.2.3 and Section 6.4. After examining the data, the maximum likelihood (ML) estimation was chosen for running the data analysis in this research. ML is the most common SEM estimation procedure (Anderson & Gerbing 1988; Hair et al. 2006; Hoyle 1995). It is an iterative estimation procedure that estimates an approximate value for each parameter and it may have more than one possible solution (Cunningham 2007). After several iterative procedures that converge on a set of parameter estimates, the smallest difference between the sample variances and covariances and the implied variances and covariances was derived from the parameter estimates, in turn, a model with a good fit was produced.

Other estimation procedures, such as generalised least squares (GLS), unweighted least squares (ULS) and asymptotically distribution-free (ADF) estimations, were available but were inappropriate for this study. ML or GLS are theory-oriented and are used for theory testing and development (Anderson & Gerbing 1988). ULS weights each element equally while ML and GLS do not. In particular, the ML weight matrix is effectively updated at each iteration in the estimation process while the GLS weight matrix is fixed for all iterations as a function of the sample variance-covariance matrix. In addition, both GLS and ADF are problematic because very large sample sizes are required in order to obtain stable estimates (Anderson & Gerbing 1988; Holmes-Smith, Cunningham & Coote 2007). Therefore, ML was selected for data analysis in this research.



In addition, ML estimation was chosen because it produces consistent efficient estimation under the assumption of multivariate normality in a moderately sized sample (Anderson & Gerbing 1988; Diamantopoulos & Siguaw 2000; Kline 1998). Specifically, the ML method based on covariance was more defensible than other estimation methods where the number of categories in the Likert scales is four or greater (Sub-section 5.4.1), no skew or high kurtosis is accounted for (Section 6.4) and the sample size is sufficiently large relative to the number of items being estimated. This will be discussed further in the next part.

### **Justification of using bootstrapping approach**

The issue of sample size for adequate estimation has always been a major concern in the application of SEM because small samples are more likely to yield unreliable results (Chou & Bentler 1995; Kline 2005). As an *ad hoc* rule of thumb, a ratio of 10 cases for each variable in multivariate analytical techniques such as an MANOVA or multiple regression is sufficient to estimate parameters confidently with adequate statistical power (Kline 2005; Tanaka 1987). However, this rule is not applicable to SEM. It is more appropriate to consider the ratio of the number of cases to the number of parameters being estimated (Chou & Bentler 1995).

Indeed, an SEM sample must be big enough to obtain a stable or meaningful parameter estimate. ML estimators in structural equation models with latent variables have collapsed seriously in samples of less than 100 (Hair et al. 2006; Kline 2005). The recommended minimum sample size to ensure a stable ML solution is 100 to 150. A sample size of 200 provides a sound basis for estimation and is considered to be of a reasonable size (Chou & Bentler 1995; Hair et al. 2006; Kline 2005). However, there are no theoretical guidelines as to what constitutes an adequate sample size in SEM (Baumgartner & Homburg 1996). More precisely, models with more parameters require a larger sample than do more parsimonious models (Hulland, Chow & Lam 1996; Kline 2005). The general rule is that under normal distribution, the ratio of sample size to number of free parameters should be at least 5:1 to obtain a test of appropriate significance (Baumgartner & Homburg 1996; Bentler & Chou 1987).

In this research, all the measurement models tested did not violate this rule; except in the full structural model, the ratio of sample size to free parameters was 2:1. The required sample size for the full structural model is 420 ( $84 \text{ parameters} * 5 = 420$ ) samples to appropriately perform an SEM analysis. Nonetheless, by using the bootstrapping approach described in Sub-section 6.5.3, the model was found to fit the data. That is, the set of parameter estimates yielded a small value for the difference between the implied and sample variance-covariance matrix stated in the previous part of this sub-section.

### **Justification of adopting covariance matrix**

The most appropriate input data in SEM is the covariance matrix, which focuses on covariation among the variables specified in the hypothesized model, rather than a correlation matrix (Baumgartner & Homburg 1996; Hair et al. 2006). A covariance matrix was applied in this study because the covariance can be used appropriately with the ML estimation for three reasons (Baumgartner & Homburg 1996).

First, a covariance matrix is more appropriate for theory testing in this research, while a correlation matrix is preferable for detecting exploratory patterns of relationships between constructs (Hair et al. 2006). Second, the covariance matrix should be used as a measure of association under the ML model estimate (Anderson & Gerbing 1988) because reported standard errors may be incorrect if a correlation matrix is used (Baumgartner & Homburg 1996). Lastly, the covariance matrix can be used to deal with differences in variability across the samples (Hair et al. 2006; Hulland, Chow & Lam 1996). In brief, the focus of SEM in this research was on the multivariate relationships across a sample of responding firms, and, therefore, a covariance matrix was used for the input.

### **Determination of using a two-stage approach of SEM**

The next issue in preparing for model evaluation is to determine a one- or two-stage approach to the SEM. The conventional SEM method involves simultaneously evaluating the measurement and structural models; in other words, the one-step approach involves estimating the relationships between the indicators and their latent constructs while at the same time testing the entire model (Anderson & Gerbing 1988; Diamantopoulos 1994; Hulland, Chow & Lam 1996). However, there is a problem of

interpretational confounding using this approach since the meaning empirically assigned to an unobserved variable may change depending on the specification of free and constrained parameters for the structural model (Anderson & Gerbing 1988). This approach was not appropriate for this research because both a strong theoretical rationale and highly reliable measures are needed for a one-stage approach (Hair et al. 2006).

Therefore, a two-stage approach of SEM was adopted for this research, with the measurement model being estimated first in order to assess the quality of the measurement items using confirmatory factor analysis, and in turn, estimate the causal structure using the subset of measures identified as specified in the first stage (Anderson & Gerbing 1988; Hulland, Chow & Lam 1996). In the first stage, this research used one-factor congeneric measurement models to provide better estimates of the true reliability of the composite scales, to support evidence for the construct validity of the indicator variables, and to reduce the variables to a manageable level in fitting the structural models to data for the second stage (Holmes-Smith, Cunningham & Coote 2007).

### **Model identification**

The last stage of preparing for model evaluation is model identification. A model is considered to be identified if it is theoretically possible to calculate a unique estimate of every parameter (Byrne 2001; Kline 2005). Models that have estimated parameters of more than the number of variances and covariances are *underidentified*, whereas models having the number of data variances and covariances equal to the number of parameters to be estimated are described as *just-identified* (Byrne 2001). Then, the number of parameters to be estimated perfectly reproduces the sample variance-covariance matrix, the chi-square and the degree of freedom are equal to zero, so the just-identified model can never be rejected (Byrne 2001). In this research, none of the models estimated was underidentified or just-identified.

Indeed, models with fewer parameters than the number of variances and covariances are regarded as *overidentified*. More than one estimate of each parameter can be obtained and the degrees of freedom are positive; in turn, one set of estimates can be used to test the model. However, this does not necessarily mean that the model must perfectly fit the

data because discrepancies between the model and the data are possible (Diamantopoulos & Siguaw 2000; Kline 2005). Therefore, a model with a good fit can be obtained with the best set of parameter estimates that minimises the discrepancy function. In this research, all the models estimated were overidentified. Also, Amos software produces a warning message if the model cannot be identified; therefore, each model estimation performed in this research was checked and the models were all identified (Arbuckle 2006).

### **6.5.3 Step three: measurement model evaluation and specification**

The third step in SEM is model evaluation and specification. Two parts are involved in this step: the goodness of fit criteria and estimates of evaluating one-factor congeneric measurement models.

#### **Deciding goodness of fit criteria**

Two details were considered in evaluating the measurement and structural models: their unidimensionality and their fit. In this research, the Cronbach coefficient alpha using SPSS, and composite scale reliability and standardised regression weights using Amos were calculated to measure the unidimensionality of measurement models. Multiple goodness-of-fit indices were used as summary measures of a model's overall fit in this research because no single statistical test of significance identifies a correct model from the sample data (Byrne 2001; Diamantopoulos & Siguaw 2000). The assessment of model fit for this research was based on multiple criteria: root mean square residual (RMR); normed fit index (NFI); Tucker Lewis fit index (TLI); and comparative fit index (CFI) (Baumgartner & Homburg 1996; Bentler 1990; Browne & Cudeck 1993; Byrne 2001; Cunningham 2007; Hair et al. 2006; Holmes-Smith, Cunningham & Coote 2007; Hu & Bentler 1999; Hulland, Chow & Lam 1996; Kline 2005; Maruyama 1998; Schumacker & Lomax 2004). These are summarised in Table 6.6 and justified in detail in Appendix 6.1.

Table 6.6 Summary of the acceptable levels of reliability, regression weights and fit indices

Name	Abbreviation	Type	Acceptable level
Cronbach's alpha	$\alpha$	Unidimensionality	$\alpha > 0.7$ adequate
Composite scale reliability			Values above 0.6
Standardised regression weight	Beta		Beta > 0.40
Chi-square (with associated degrees of freedom and probability of significant different)	$\chi^2$ (df, p)	Model fit	p > 0.05 (at $\alpha$ equals to 0.05 level)
Bollen-Stine bootstrap p			p > 0.05 (at $\alpha$ equals to 0.05 level)
Normed chi-square	$\chi^2 / df$	Absolute fit and Model parsimony	$1.0 < \chi^2 / df < 3.0$
Root mean square residual	RMR	Absolute fit	RMR < 0.10
Normed fit index	NFI	Incremental fit	Values above 0.8 and close 0.9 indicate acceptable fit
Tucker Lewis fit index	TLI		
Comparative fit index	CFI		

Source: developed from Baumgartner and Homburg (1996), Bentler (1990), Browne and Cudeck (1993), Byrne (2001), Cunningham (2007), Hair *et al.* (2006), Holmes-Smith *et al.* (2007), Hu and Bentler (1999), Hulland, Chow and Lam (1996), Kline (2005), Maruyama (1998) and Schumacker and Lomax (2004).

**Bootstrapping approach.** In addition to using fit indices to examine the fit of a model, another approach – Bollen-Stine bootstrap p – can be used to test paths and to test the robustness of a model. Amos produces the adjusted p-value as a similar post-hoc adjustment to justify non-normality. The Bollen-Stine bootstrap has the ability to treat a random sample of data as a substitute for the population and to resample from it a specified number of times to generate sample bootstrap estimates, appropriate standard errors and confidence intervals (Byrne 2001; Holmes-Smith, Cunningham & Coote 2007). Therefore, using its powerful bootstrapping routines, the true sampling properties of statistics were evaluated through random sampling even when the population distribution was unknown (Yung & Chan 1999).

The Bollen-Stine bootstrap is also a bootstrap modification of model chi-square, used to test model fit, adjusting for distributional misspecification of the model (Holmes-Smith, Cunningham & Coote 2007). The bootstrapping procedures were used to evaluate the strength of paths and determine whether the hypothesised model was correct and supportable with significant confidence (Byrne 2001). The recommended threshold was a p value greater than 0.50 (Holmes-Smith, Cunningham & Coote 2007). All the

measurement models in Appendix 6.2 and the structural model in Appendix 6.4 are estimated using Amos's bootstrap procedure at 500 bootstrap samples to generate Bollen-Stine's p value (Byrne 2001).

### Estimates for evaluating one-factor congeneric measurement models

In addition to the above criteria, other standardised estimates associated with the evaluation of congeneric measurement models were used in this research. Table 6.7 provides a summary of these criteria and they are discussed in depth below.

Table 6.7 Summary of standardised estimates used for congeneric measurement models

Standardised estimate	Value criteria
Factor loading	> 0.7 good, > 0.4 acceptable
Critical ratio (t value)	>1.96

Source: developed for this research from Holmes-Smith, Cunningham and Coote (2007).

First, standardised *factor loadings* (or standardised regression weights in Amos) should have a value greater than 0.7 to indicate a strong association between the indicators and the latent variable, though values greater than 0.4 are considered acceptable (Holmes-Smith, Cunningham & Coote 2007; Hulland, Chow & Lam 1996; Kline 2005; Tabachnick & Fidell 2007). Second, the *critical ratio* (cr) of the estimates, which can be interpreted as a t-value, compares the parameter estimate to its estimated standard error. The covariance was considered significant if the critical ratio of the measure was greater than 1.96 for the factor loading or variance that it is being estimated in this research (Byrne 2001; Holmes-Smith, Cunningham & Coote 2007). Results based on these criteria are analysed in the next sub-section.

#### 6.5.4 Step four: testing measurement models

The previous sub-section discussed issues that had to be considered before testing the measurement models. This sub-section presents the testing results for one-factor measurement models. The analysis of the measurement model in SEM allows for complex modelling whereby error associated with the measurement of the indicator variables can be accounted for. The unequal contributions of the indicator variables towards the measurement of the latent variables can also be accounted for and the fit of

these indicators as measures of the latent variables can be tested (Cunningham 2007). In this research, each of the latent variables was analysed in the form of *congeneric* models to determine their unidimensionality as explained in Appendix 6.1. This sub-section also justified the use of these one-factor congeneric measurement models in the first stage of model evaluation (Sub-section 6.5.2) and reported the general results of testing these measurement models.

### One-factor congeneric measurement models

A one-factor congeneric model is the simplest measurement model and it represents the regression of the set of observed indicator variables on the single latent variable. This study examined eight constructs. However, seven congeneric models were examined because one construct – size of supplier base – was measured by only one observed variable, so there was no need to test the construct in the congeneric model.

A detailed discussion of congeneric theory is shown in Appendix 6.2. Thirty-six indicator variables tested in the first stage (congeneric measurement models) were reduced to 30 due to the low regression weights of the six indicators, for use in the second stage (structural model) (Appendix 6.4). Table 6.8 provides a legend to the labelling of these constructs.

Table 6.8 Legend to the labelling constructs

Label	Construct/variable
<b>Commitment</b>	
OperationCommt	• Firms make operation adjustments to cope with supplier's competence.
TailorRequirement	• Firms tailor their fabric requirement to suit supplier's production capability.
FlexibleSpec	• Firms are flexible when supplier cannot meet the fabric specifications.
FlexibleSchedule	• Firms are flexible in production schedule when supplier's delivery arrangement is changed.
<b>Trust</b>	
ReliablePromise	• Firms keep promises made to supplier.
Predictable	• Firms are always honest with supplier.
ReliableInfo	• Firms provide reliable information to supplier.
Trustworthy	• Firms are trustworthy to supplier.
Fairness	• Firms need to be cautious when working with supplier.

Table 6.8 (continued)

Label	Construct/variable
<b>Reputation</b>	
ConcernCommu	<ul style="list-style-type: none"> <li>Firms show concern for community and are known as responsive to environmental issues.</li> </ul>
ExcellentReturn	<ul style="list-style-type: none"> <li>Firms consistently provide investor(s) with excellent returns and prove a valuable long-term investment.</li> </ul>
ResourceUse	<ul style="list-style-type: none"> <li>Firms have reputation for efficient and effective use of corporate resources.</li> </ul>
AttractiveManu	<ul style="list-style-type: none"> <li>Firms are regarded as one of the most appealing clothing suppliers to their present and potential customers.</li> </ul>
AttractSup	<ul style="list-style-type: none"> <li>Firms can attract the most competent fabric suppliers for business.</li> </ul>
GmtDevelop	<ul style="list-style-type: none"> <li>Firms have the capability to influence the development of the local clothing industry.</li> </ul>
<b>Guanxi</b>	
Giftgiving	<ul style="list-style-type: none"> <li>Firms frequently give presents to supplier and invite supplier for dinners.</li> </ul>
PersonalRelation	<ul style="list-style-type: none"> <li>Firms emphasise the principles of harmony when working with supplier.</li> </ul>
FavourReciprocate	<ul style="list-style-type: none"> <li>No matter the favour obtained, firms will reciprocate with same amount of favour to supplier.</li> </ul>
HelpReciprocate	<ul style="list-style-type: none"> <li>Firms must try returning favours to supplier in the future if supplier helps them this time.</li> </ul>
Convenience	<ul style="list-style-type: none"> <li>Providing convenience for supplier also means furnishing the same to themselves.</li> </ul>
Mianzi	<ul style="list-style-type: none"> <li>Firms emphasise the provision of face (mianzi) to supplier when working with them.</li> </ul>
Brotherhood	<ul style="list-style-type: none"> <li>Firms emphasise the “brotherhood relationship” or friendship developed with supplier.</li> </ul>
<b>Asset specificity</b>	If firms’ sourcing agreement with supplier are cancelled, .....
Replace	<ul style="list-style-type: none"> <li>they would need substantial investments to search for another new supplier.</li> </ul>
Schedule	<ul style="list-style-type: none"> <li>their production and delivery schedule in the season will be interrupted.</li> </ul>
SameFabric	<ul style="list-style-type: none"> <li>it would be difficult to find another supplier to provide the same fabric for their particular garments in the season.</li> </ul>
Staff	<ul style="list-style-type: none"> <li>they would need to invest a lot of time and effort redeploying their staff who are presently working with supplier.</li> </ul>
Experience	<ul style="list-style-type: none"> <li>they would have to forsake a lot of working experience or knowledge tailored to the relationship with supplier.</li> </ul>
<b>Relationship continuity</b>	
FutureWork	<ul style="list-style-type: none"> <li>Firms expect to work together on future seasons with supplier.</li> </ul>
LongtermDevelop	<ul style="list-style-type: none"> <li>Firms expect to establish long-term development goals with supplier.</li> </ul>
OpenendInvolve	<ul style="list-style-type: none"> <li>Firms’ involvement with supplier is open-ended.</li> </ul>
LifeLongPartner	<ul style="list-style-type: none"> <li>Firms expect supplier to grow into our life-long partner.</li> </ul>
<b>CSBASE</b>	<b>Observed variable of supplier base</b>
KeyFabNo	<ul style="list-style-type: none"> <li>Number of key fabric suppliers.</li> </ul>



Table 6.8 (continued)

Label	Construct/variable
<b>Transaction costs</b>	
SearchTC	<ul style="list-style-type: none"> <li>It is very timely and costly to search and select suitable suppliers to replace supplier.</li> </ul>
ContractTC	<ul style="list-style-type: none"> <li>It is very timely and costly to negotiate contract terms such as price, minimum quantity and target delivery date with supplier.</li> </ul>
MonitorTC	<ul style="list-style-type: none"> <li>It is very timely and costly to monitor the performance of supplier, to ensure they reach the original agreement.</li> </ul>
EnforceTC	<ul style="list-style-type: none"> <li>It is very timely and costly to resolve disputes with supplier.</li> </ul>

Note: deleted items in one-factor congeneric measurement model are shown in shaded rows

Source: developed for this research.

In this research, a confirmatory factor analysis (CFA) was used to test for the internal consistency of the scales and to examine the robustness of their factor structure (Fornell & Larcker 1981; Hair et al. 2006). Multiple goodness-of-fit statistics were used to evaluate the fit of the factor structure in CFA as discussed in Sub-section 6.5.3. The details of the results of the one-factor congeneric measurement models of all the constructs under study are shown in Appendix 6.2. The standardised regression weights, standard errors, critical ratios, goodness-of-fit estimates for CFA and their complementary indices on Cronbach's alpha, and the composite scale reliabilities of the models are summarised in Table 6.9.

Table 6.9 Standardised and goodness-of-fit estimates of one-factor congeneric measurement models

Constructs/Items	Standardised regression weight ( $\beta$ )	Standard error	Critical ratio (t)	Cronbach's alpha	Composite scale reliability
<b>Commitment</b> ( $\chi^2 = 8.523$ , df = 2, Bollen-Stine p > 0.05; RMR = 0.045; NFI = 0.938, TLI = 0.850; CFI = 0.950)					
OperationCommnt	0.615***	0.082	7.410	0.725	0.740
TailorRequirement	0.540***	0.094	6.414		
FlexibleSpec	0.660***	0.080	7.982		
FlexibleSchedule	0.717***	0.080	8.674		
<b>Trust</b> ( $\chi^2 = 16.505$ , df = 2, Bollen-Stine p > 0.05; RMR = 0.018; NFI = 0.957, TLI = 0.884; CFI = 0.961)					
ReliablePromise	0.823***	0.047	12.472	0.885	0.865
Predictable	0.871***	0.043	13.569		
ReliableInfo	0.818***	0.046	12.368		
Trustworthy	0.737***	0.049	10.647		
<b>Reputation</b> ( $\chi^2 = 21.134$ , df = 9, Bollen-Stine p > 0.05; RMR = 0.030; NFI = 0.941, TLI = 0.942; CFI = 0.965)					
ConcernCommu	0.623***	0.068	8.312	0.839	0.849
ExcellentReturn	0.747***	0.057	10.531		
ResourceUse	0.739***	0.054	10.364		
AttractiveManu	0.657***	0.057	8.880		
AttractSup	0.681***	0.059	9.302		
GmtDevelop	0.688***	0.079	9.428		
<b>Guanxi</b> ( $\chi^2 = 17.259$ , df = 5, Bollen-Stine p > 0.05; RMR = 0.046; NFI = 0.952, TLI = 0.929; CFI = 0.965)					
FavourReciprocate	0.743***	0.068	10.646	0.850	0.880
HelpReciprocate	0.882***	0.065	13.570		
Convenience	0.739***	0.071	10.566		
Mianzi	0.640***	0.072	8.742		
Brotherhood	0.642***	0.079	8.777		
<b>Asset specificity</b> ( $\chi^2 = 0.194$ , df = 1, Bollen-Stine p > 0.05; RMR = 0.009; NFI = 0.998, TLI = 1.025; CFI = 1)					
SameFabric	0.536***	0.093	6.341	0.708	0.782
Staff	0.772***	0.095	8.420		
Experience	0.715***	0.093	7.965		
<b>Relationship continuity</b> ( $\chi^2 = 16.139$ , df = 2, Bollen-Stine p > 0.05; RMR = 0.042; NFI = 0.950, TLI = 0.866; CFI = 0.955)					
FutureWork	0.755***	0.049	10.905	0.847	0.889
LongtermDevelop	0.902***	0.052	13.990		
OpenendInvolve	0.663***	0.071	9.181		
LifeLongPartner	0.776***	0.074	11.327		
<b>Transaction costs</b> ( $\chi^2 = 0.496$ , df = 1, Bollen-Stine p > 0.05; RMR = 0.013; NFI = 0.997, TLI = 1.010; CFI = 1)					
ContractTC	0.731***	0.077	9.923	0.794	0.824
MonitorTC	0.852***	0.077	11.318		
EnforceTC	0.685***	0.073	9.119		

Note: \*\*\* p&gt;0.01

Source: maximum likelihood estimation with Amos 5.0.

Results showed that the Cronbach's alphas for all the constructs were greater than 0.70, indicating that the items of observed variables correlated well with the true scores (Kline 2005). The maximised measures of composite scale reliability for all the constructs ranged from 0.740 to 0.889, which exceeded the recommended threshold value of 0.60 (Bagozzi & Yi 1988), suggesting that all seven sets of indicator variables were reliable measures of the underlying latent traits. All the standardised regression weights in each construct were above 0.40 (Holmes-Smith, Cunningham & Coote 2007; Hulland, Chow & Lam 1996; Kline 2005; Tabachnick & Fidell 2007), providing evidence in support of convergent validity and suggesting that the indicators were good measures of their respective constructs. The multiple goodness-of-fit indices also indicated that the model fit the data well, with all the Bollen-Stine bootstrap p values being greater than 0.50 (Holmes-Smith, Cunningham & Coote 2007), the RMR smaller than 0.10 (Browne & Cudeck 1993; Hu & Bentler 1999; Hulland, Chow & Lam 1996) and the NFI, TLI and CFI greater than 0.80 (Baumgartner & Homburg 1996; Hair et al. 2006), suggesting that the indices were all within acceptable proximity to the criteria.

### **Model-based measures of reliability and validity**

The next step before testing the full model, in relation to the research propositions, was to examine the theoretical constructs of the model for reliability and validity. Theoretical constructs can only be measured through observable measures or indicators that vary in their degree of reliability and validity. However, no single indicator can obtain the full theoretical meaning of the underlying construct, so multiple indicators of a construct are required (Steenkamp & Baumgartner 2000). Then, the reliability and validity of the sets of indicators can be assessed before they are used in the structural model (Steenkamp & Baumgartner 2000). Both reliability and validity were assessed in this research using SEM because it allows researchers to investigate the effects of latent variables on observed variables and to partition error variance in the observed variables (Baumgartner & Homburg 1996; Bollen 1989). Indeed, researchers generally report three model-based estimates of reliabilities, including reliability and validity for the observed variables (Bollen 1989), which will be discussed in the following parts.

**Reliability.** Reliability is a measure of the degree to which a set of indicators of a latent construct are internally consistent in their measurements (Hair et al. 2006). Reliability also reflects the extent to which an indicator is free from random error; systematic error does not affect reliability as it impacts on measurement in a consistent way, while

random error produces inconsistency in measurement and lowers reliability (Diamantopoulos & Siguaw 2000; Malhotra 2007).

In this research, reliability was used to assure that it was free from random error and provided consistent results (Malhotra 2007; Zikmund 2003). There are four approaches to reliability: test-retest, alternative-forms, split-half and internal-consistency reliability (Malhotra & Peterson 2006). Internal-consistency reliability was applied in this research by administering a single test of scale reliability, item reliability and variance extracted (Carmines & Zeller 1979).

*Reliability of scales.* The Cronbach coefficient alpha is a commonly used measure of reliability assessing the internal consistency of scales with multiple items. All the constructs that have an alpha value greater than the lower limit of 0.70 are generally acceptable (Hair et al. 2006), while the alpha value of 0.60 is also considered to be acceptable for newly developed scales or in exploratory research (Hair et al. 2006; Nunnally 1978). The alpha of the newly developed and adapted scales used for this research, as described in Sub-section 5.4.1, such as commitment, reputation, *guanxi*, asset specificity and transaction costs, were greater than 0.7.

Cronbach reliability tests were performed on all variables in this research and are summarised in Table 6.10. In this table, the original reliabilities refers to the constructs before confirmatory factor analysis (CFA). Such reliabilities can also be used as an indicator of convergent validity. Cronbach's coefficient alpha is a commonly applied estimate using SPSS, but this alpha value may understate reliability. Therefore, apart from assessing the reliability of the individual indicators, a construct reliability value for each latent variable was calculated using SEM (Diamantopoulos & Siguaw 2000). Construct reliability measures the internal consistency of a set of measures rather than the reliability of a single variable. The advantage of using construct reliability is that it is based on estimates of model parameters, so it shows the extent to which a set of measures indicates the common latent construct. (Cunningham 2007; Fornell & Larcker 1981). Construct reliability can be computed from model estimates using this formula:

$$\rho_{\eta} = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \varepsilon_i}$$

where  $\rho_{\eta}$  = measure of construct reliability  
 $\lambda_i$  = standardised loading for each observed variable  
 $\varepsilon_i$  = error variance associated with each observed variable

In this research, both the original and construct reliabilities were above 0.70, indicating an acceptable range in business research standards as shown in Table 6.10 (Zikmund 2003).

Table 6.10 Reliability of the latent variable

Latent variable	Original reliability (EFA)	Construct reliability (CFA)
Commitment	0.725	0.711
Trust	0.885	0.941
Reputation	0.839	0.878
<i>Guanxi</i>	0.850	0.848
Asset specificity	0.708	0.714
Relationship continuity	0.847	0.873
Transaction cost	0.794	0.798

Source: analysis of field data.

*Item reliability.* Item reliability is also referred to as the squared multiple correlation (SMC) for the observed variables, representing the correlation between the items and the composite score formed by adding all items associated with the trait. It represented the proportion of the variance in the observed variable that is explained by the latent variable. For this research, SMC was considered high if above 0.5, moderate if between 0.3 and 0.5, and poor or acceptable if below 0.3 (Bollen 1989; Cunningham 2007; Holmes-Smith, Cunningham & Coote 2007; Tabachnick & Fidell 2007). Table 6.111 shows the SMCs for the variables in the model. Overall, all of the 29 measurement variables (except size of supplier base) had SMCs larger than 0.30; the high item reliabilities for the measurement variables suggested that most items were good indicators of the latent variables they were trying to measure (Table 6.11).

Table 6.11 Squared multiple correlation coefficients for model, for each sample with SMC &lt; 0.3 in bold

Latent and observed variable	Observed or measured variable description	SMCs
<b>Commitment</b>		
OperationComm	Respondents make operation adjustments to cope with supplier's competence.	0.536
TailorRequirement	Respondents tailor their fabric requirement to suit supplier's production capability.	0.331
FlexibleSpec	Respondents are flexible when supplier cannot meet with fabric specifications.	0.558
FlexibleSchedule	Respondents are flexible in production schedule when supplier's delivery arrangement is changed.	0.401
<b>Trust</b>		
ReliablePromise	Respondents keep promises made to supplier.	0.583
Predictable	Respondents are always honest with supplier.	0.672
ReliableInfo	Respondents provide reliable information to supplier.	0.684
Trustworthy	Respondents are trustworthy to supplier.	0.540
<b>Reputation</b>		
ConcernCommu	Respondents show concern for community and are known as responsive to environmental issues.	0.372
ExcellentReturn	Respondents consistently provide investor(s) with excellent returns and prove a valuable long-term investment.	0.589
ResourceUse	Respondents have reputation for efficient and effective use of corporate resources.	0.602
AttractiveManu	Respondents are regarded as one of the most appealing clothing suppliers to their present and potential customers.	0.378
AttractSup	Respondents can attract the most competent fabric suppliers for business.	0.414
GmtDevelop	Respondents have the capability to influence the development of the local clothing industry.	0.417
<b>Guanxi</b>		
FavourReciprocate	No matter the favour obtained, respondents will reciprocate with same amount of favour to supplier.	0.566
HelpReciprocate	Respondents must try returning favours to supplier in the future if supplier helps them this time.	0.769
Convenience	Providing convenience for supplier also means furnishing the same to themselves.	0.557
Mianzi	Respondents emphasise the provision of face (mianzi) to supplier when working with them.	0.402
Brotherhood	Respondents emphasise the "brotherhood relationship" or friendship developed with supplier.	0.406

Table 6.11 (continued)

Latent and observed variable	Observed or measured variable description	SMCs
<b>Asset specificity</b>		
If respondents' sourcing agreement with supplier are cancelled,		
Staff	it would be difficult to find another supplier to provide the same fabric for their particular garments in the season.	0.311
Knowledge	they would need to invest a lot of time and effort redeploying their staff who are presently working with supplier.	0.600
Experience	they would have to forsake a lot of working experience or knowledge tailored to the relationship with supplier.	0.496
<b>Relationship continuity</b>		
FutureWork	Respondents expect to work together on future seasons with supplier.	0.566
LongtermDevelop	Respondents expect to establish long-term development goals with supplier.	0.872
OpenendInvolve	Respondents' involvement with supplier is open-ended.	0.366
LifeLongPartner	Respondents expect supplier to grow into our life-long partner.	0.535
<b>Transaction costs</b>		
ContractTC	It is very timely and costly to negotiate contract terms such as price, minimum quantity and target delivery date with supplier.	0.592
MonitorTC	It is very timely and costly to monitor the performance of supplier, to ensure they reach the original agreement.	0.692
EnforceTC	It is very timely and costly to resolve disputes with supplier.	0.488

Source: analysis of survey data collected for this research.

*Variance extracted estimate.* Variance extracted estimation (Hair et al. 2006) is similar to construct reliability; it differs, however, in the way that the standardised loadings are squared before they are summed up. Also, the variance extracted estimation is a more conservative indicator of the shared variance in a set of measures than is construct reliability, as the variance extracted estimate reflects the overall amount of variance in the indicators accounted for by the latent construct in relation to the amount of variance due to measurement error (Fornell & Larcker 1981). Higher values for the variance extracted estimate indicate that the indicators are representative of the latent construct. A commonly reported threshold value of the variance extracted estimate for a construct should exceed 0.50 (Cunningham 2007; Fornell & Larcker 1981; Hair et al. 2006). The variance extracted estimate was computed using this formula (Fornell & Larcker 1981):

$$\rho_{vc(\eta)} = \frac{\sum \lambda_i^2}{\sum \lambda_i^2 + \sum \varepsilon_i}$$

where  $\rho_{vc(n)}$  = variance extracted estimate  
 $\lambda_i$  = standardised loading for each observed variable  
 $\varepsilon_i$  = error variance associated with each observed variable

Table 6.12 shows that the variance extracted estimates of all seven constructs, except *asset specificity*, were greater than the critical value of 0.50, indicating that these constructs captured more than 50 per cent of the variance in their observable measures. In other words, the variance due to measurement error was less than the variation in the indicators explained by the six latent constructs.

Table 6.12 Variance extracted for each latent variable

Latent variable	Variance extracted
Trust	0.8
Commitment	0.5
Reputation	0.5
<i>Guanxi</i>	0.5
Asset specificity	0.4
Relationship continuity	0.6
Transaction costs	0.6

Source: Analysis of field data.

The variance extracted estimate for *asset specificity* was 0.4, indicating that the variance due to measurement error was larger than the variation in the indicators explained by this latent variable. One possible explanation was that although there is empirical research on networking relationships between exchange partners, such evidence is mostly related to industries such as the automobile industry (Dyer 1996b; Morgan & Hunt 1994), electronics (Anderson & Weitz 1989; Zaheer, McEvily & Perrone 1998), industrial original equipment (Heide 1994) and chemical manufacturing (Stump & Heide 1996). Little previous empirical research has focused on strategic networks between buyer and supplier in the clothing industry (Wathne & Heide 2004). Therefore, using the questionnaire items originated for those research studies may not be applicable to this industry. A modification of questionnaire items was required to confine to this research, such as revising the sourcing agreements related to the exchange between garment manufacturers and fabric suppliers, and using the terms specific to the clothing industry.



In this research, the scale of *asset specificity* was adopted and modified for the first time in the context of the clothing industry. This result still confirmed the relatively unsatisfactory readings on item reliability for the latent variable. Since the questionnaire items were revised with little theoretical grounding in the clothing context, little theoretical guidance for revising such items led to the relatively large amount of variance in the indicators due to measurement error accounted for by the latent construct. Since asset specificity was an important factor for strategic networking, it was adopted in this model for further analysis.

**Validity.** One advantage of SEM is that it has an ability to assess the construct validity of a proposed measurement theory (Hair et al. 2006). Construct validity is the ability with which an indicator actually measures the construct, or basically whether an indicator measures what it is supposed to measure (Bollen 1989; Diamantopoulos & Siguaw 2000; Hair et al. 2006). Reliability indicates the extent to which a set of indicators of a latent construct is internally consistent based on how highly interrelated the indicators are. However, high reliability does not guarantee that the construct is measured accurately, so the assessment of validity is required (Hair et al. 2006). There are two measures of construct validity: convergent and discriminant validity.

**Convergent validity.** Convergent validity is the extent to which a measure correlates or converges with other measures of the same construct (Hair et al. 2006; Malhotra 2007). It can be assessed from the measurement model by determining whether each indicator's estimated pattern coefficient on its posited underlying latent variable is significant, that is, greater than twice its standard error (Anderson & Gerbing 1988). In this research, each variable had a critical ratio larger than twice its standard error as shown in Appendix 6.3. In addition, Table 6.9 (in page 183) shows that all the measurement items loaded significantly (that is,  $p < 0.001$  and  $t > 2.0$ ) onto their respective constructs with loadings ranging between 0.536 ( $t = 6.341$ ) to 0.902 ( $t = 13.990$ ), indicating that convergent validity was achieved.

*Discriminant validity.* Moreover, discriminant validity estimates the extent to which a measure does not correlate or converge with other constructs from which it is supposed to differ (Malhotra 2007). In other words, it reflects the extent to which the constructs in a model are different. Large correlations between latent constructs, that is, greater than 0.80 or 0.90, suggest a lack of discriminant validity (Cunningham 2007). The structure coefficients generated in Amos were also used to check for validity.

As shown in the top left section containing the factor intercorrelations in Table A6.3.1 (Appendix 6.3), none of the correlations between latent constructs was greater than 0.80, suggesting a presence in discriminant validity. The middle bottom left shows the structure coefficients, which are the factor loadings multiplied by factor intercorrelations in CFA. These structure coefficients for all the constructs are shaded in Table A6.3.1 and show a clear distinction between the items comprising the respective factors and the remaining items. Therefore, all the latent constructs displayed discriminant validity (Cunningham 2007).

To sum up, in the first stage of SEM for this research, one-factor congeneric measurement models were used to reduce the 36 observed variables down to a smaller number of 30 variables, which were then used in structural models in the next step. In this stage of SEM, clarification of the measurement models was made (Anderson & Gerbing 1988; Baumgartner & Homburg 1996), the reliability and validity of the seven constructs were examined and were found to reach acceptable ranges.

### **6.5.5 Step five: structural model evaluation**

The one-factor congeneric measurement models described in the last sub-section can be used in the final step of evaluating the structural models (Anderson & Gerbing 1988). This sub-section reports the results of the second stage of SEM, the estimation of the full structural models. Two issues are described in this process: estimating the structural model and testing the hypotheses of the model as shown in Figure 6.2.

## Estimating the structural model

The main structural model in Figure 6.2 shows the latent constructs: commitment, trust, reputation, *guanxi*, asset specificity, relationship continuity and transaction costs. Fitness measures of this structural model are shown in Table 6.13. The path diagram of the structural model in Amos is illustrated in Appendix 6.4. As shown in Appendix 6.4, the correlations or covariances among predictor or exogenous variables were drawn, represented by double-headed arrows (  $\longleftrightarrow$  ) among the antecedents of strategic networking. The correlations or covariances imply that there was no particular hypothesis about causal relations between predictors, so the variables were simply assumed to covary. Commitment, trust, reputation and *guanxi* were exogenous because their causes were unknown and thus were not represented in the model. Instead, exogenous variables were specified as causes of other variables. The double-headed arrows that connect the exogenous variables in Appendix 6.4 designate the observed covariance between two variables if they were unstandardised, or their correlation if they were standardised. These arrows also represent an unanalysed association between two exogenous variables. It is noteworthy that although such associations were estimated by Amos, they were unanalysed and no prediction was put forward about why the two variables covary as well. Since the causes of exogenous variables were not represented in the path model, they were typically considered free to vary and covary (Kline 2005).

Table 6.13 Fitness measure for the structural model

Fit measure		
Chi-square ( $\chi^2$ )	519.091	Acceptable
Degree of freedom (df)	365	Acceptable
Bollen-Stine bootstrap p	0.329	Acceptable
Normed chi-square (CMIN/DF)	1.422	Acceptable
Root mean square residual (RMR)	0.068	Acceptable
Normed fit index (NFI)	0.793	Acceptable
Tucker-Lewis Index (TLI)	0.911	Acceptable
Comparative fit index (CFI)	0.926	Acceptable

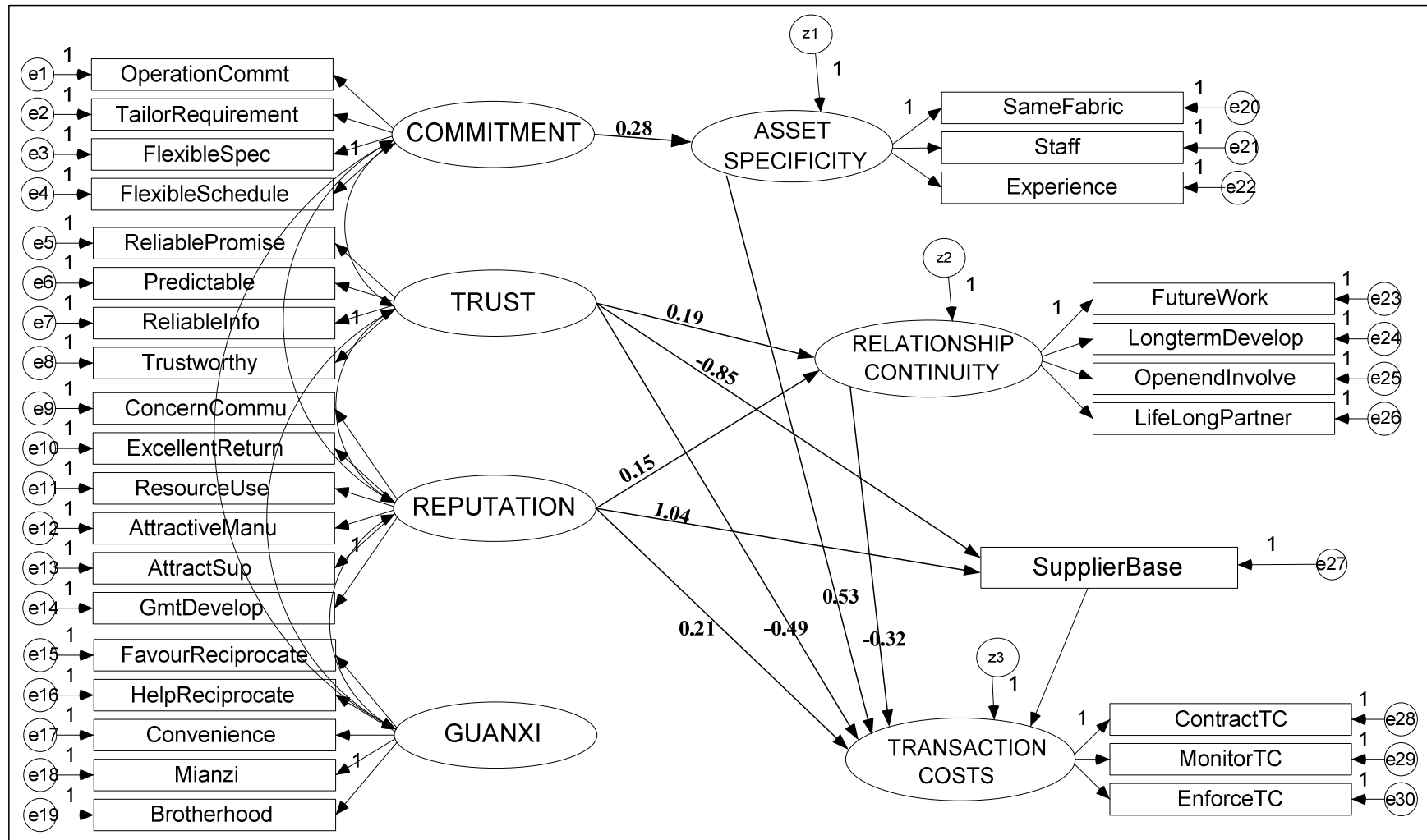
Source: analysis of survey data.

This structural model was defined a priori; therefore, the primary interest is in the model fit. Once the model fit is determined, the significance of the various parameter estimates can be established (Young-Ybarra & Wiersema 1999). The fitness indices, as tabulated

in Table 6.13, indicated that the results fit well with the survey data. All overall goodness-of-fit statistics were within acceptable fit: the CMIN (or  $\chi^2$ ) for the model was 519.091 with 365 degrees;  $\chi^2/\text{df}$  (1.422) was under 3.0; and the Bollen-Stine bootstrap p-value (0.329) was, above 0.05. Since p is greater than 0.05, the hypothesis that the model was an exact fit to the data was tenable. Also, the RMR (0.068) was less than 0.10, which suggested that the model was an appropriate model.

Moreover, both the TLI (0.911) and the CFI (0.926) were greater than 0.80, except NFI (0.793), which is close to 0.80 and, therefore, marginally acceptable. These three statistics suggested that the model was approaching a perfect fit. In addition, the RMSEA (0.050) was less than 0.08, showing strong evidence that not only was the model a close fit, but even the hypotheses that the model is an exact fit was tenable. Overall, the fit indexes for the model suggested that the structural model could be assessed as being adequate.

Figure 6.2 Amos output of the main model with significant paths



Note: only significant paths were shown with their unstandardised path regression weights.

Source: developed for this research.

## Testing results of hypotheses of the model

After estimating the model, the model was determined to fit the data reasonably well. The next step was to assess the significance of the empirical validation of hypotheses more thoroughly. The SEM method was used to analyse the data and test the research hypotheses. This method was appropriate for this research because all the relevant paths are simultaneously tested and complications such as measurement error were incorporated directly into the model (Venkataraman 1989).

A structural path analysis was used with the seven constructs (i.e., commitment, trust, reputation, *guanxi*, asset specificity, size of supplier base and transaction cost) to test the three main hypotheses in the structural model. Standardised parameter estimates, standard errors, critical ratio and p value for the structural paths were shown in Table 6.14 to Table 6.16. The path coefficients showed support for H1.1, H1.6, H1.7, H1.10, H1.11, H2.2, H2.3 and H3.2. However, the path coefficients for H1.2, H1.3, H1.4, H1.5, H1.8, H1.9, H1.12, H2.1, H2.4, H3.1 and H3.3 were not significant.

**Results of Hypothesis 1.** In Hypothesis 1, five sub-hypotheses were significant and the standardised estimates of the hypothesis are shown in Table 6.14. First, the results examining the relationship between the antecedents and asset specificity provided support for one hypothesis – Sub-hypothesis 1.1 – commitment is positively related to investment in specific assets. The remaining three sub-hypotheses, H1.2, H1.3 and H1.4, which related to the impact of other antecedents on asset specificity, were not supported.

Second, in examining the relationship between the antecedents of strategic networking and relationship continuity of strategic supplier networks, two positive relationships resulted: trust and reputation are positively related to relationship continuity. These provide support for Sub-hypotheses 1.6 and 1.7 respectively.

Third, results of the hypothesised relationships among antecedents and the size of supplier base revealed that two antecedents had a significant relationship in terms of the size of the supplier base. Trust is negatively associated with the size of the supplier base, which confirmed Sub-hypothesis 1.10, whereas reputation has a positive relationship with the size of supplier base as stated in Sub-hypothesis 1.11.

Table 6.14 Standardised estimates of Hypothesis 1

			Standardised regression weight ( $\beta$ )	S.E.	C.R.
H1.1	Asset Specificity	← Commitment	<b>0.284**</b>	0.129	2.221
H1.2	Asset Specificity	← Trust	0.009	0.123	0.074
H1.3	Asset Specificity	← Reputation	0.046	0.092	0.506
H1.4	Asset Specificity	← <i>Guanxi</i>	-0.009	0.106	-0.088
H1.5	Relationship continuity	← Commitment	0.000	0.091	-0.001
H1.6	Relationship continuity	← Trust	<b>0.192**</b>	0.097	1.987
H1.7	Relationship continuity	← Reputation	<b>0.149**</b>	0.072	2.073
H1.8	Relationship continuity	← <i>Guanxi</i>	0.088	0.080	1.094
H1.9	Supplier base	← Commitment	-0.030	0.483	-0.063
H1.10	Supplier base	← Trust	<b>-0.846*</b>	0.504	-1.680
H1.11	Supplier base	← Reputation	<b>1.044***</b>	0.384	2.720
H1.12	Supplier base	← <i>Guanxi</i>	-0.115	0.422	-0.272

Note: **bold** numbers were p values that represent significant parameters

\*\*\*  $p > 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Source: analysis of survey data.

**Results of Hypothesis 2.** The findings of Hypothesis 2, related to the relationships between antecedents of strategic networking and transaction costs, showed supports for two proposed relationships – trust and reputation on transaction costs. Trust is negatively associated with transaction costs, which confirmed Sub-hypothesis 2.2; while reputation is positively associated with transaction costs, which confirmed Sub-hypothesis 2.3. Contrarily, two of the hypothesised relationships which depict the relationships between commitment and *guanxi* with transaction costs are not supported. Standardised estimates of Hypothesis 2 are shown in Table 6.15.

Table 6.15 Standardised estimates of Hypothesis 2

			Standardised regression weight ( $\beta$ )	S.E.	C.R.
H2.1	Transaction costs	← Commitment	-0.069	0.142	-0.489
H2.2	Transaction costs	← Trust	<b>-0.492***</b>	0.156	-3.154
H2.3	Transaction costs	← Reputation	<b>0.208*</b>	0.113	1.843
H2.4	Transaction costs	← <i>Guanxi</i>	0.031	0.120	0.261

Note: **bold** numbers were p values that represent significant parameters

\*\*\*  $p > 0.01$ , \*  $p < 0.10$

Source: analysis of survey data.

**Results of Hypothesis 3.** The conclusion for the third research hypothesis is related to the relationships between the intensity of collaborative relationships and transaction costs. Opposite to expectation, asset specificity has a positive relationship on transaction costs – indicating an opposite direction of the association from the literature – disconfirming Sub-hypothesis 3.1. Relationship continuity has a negative association with transaction costs, providing support for Sub-hypothesis 3.2. Size of supplier base has little impact on transaction costs, disconfirming Sub-hypothesis 3.3. Standardised estimates of Hypothesis 3 were shown in Table 6.16.

Table 6.16 Standardised estimates of Hypothesis 3

		Standardised regression weight ( $\beta$ )	S.E.	C.R.
H3.1	Transaction costs $\leftarrow$ Asset specificity	<b>0.526***</b>	0.140	3.755
H3.2	Transaction costs $\leftarrow$ Relationship continuity	<b>-0.319**</b>	0.135	-2.354
H3.3	Transaction costs $\leftarrow$ Supplier base	0.014	0.022	0.651

Note: **bold** numbers were p values that represent significant parameters.

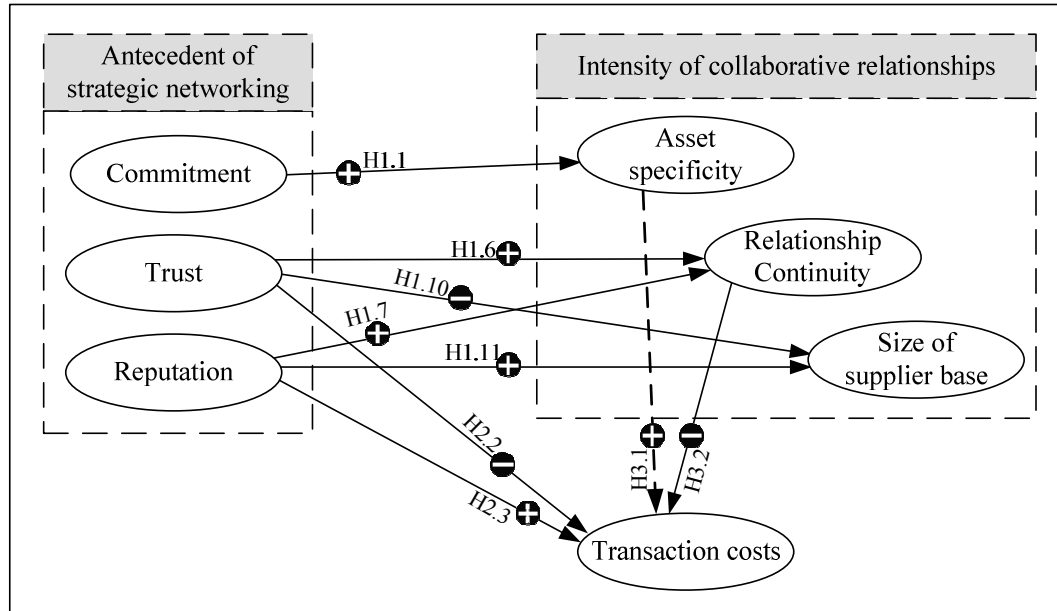
\*\*\*  $p > 0.01$ , \*\*  $p < 0.05$

Source: analysis of survey data.

To conclude, Hypotheses 1, 2 and 3 were all partially supported. Findings revealed that eight paths were statistically significant, 10 paths were not significant and one had contradictory result. The final confirmed theoretical framework is shown in Figure 6.3.



Figure 6.3 Final confirmed theoretical framework (showing only significant paths)



Note: -----► indicates the relationship of H3.1 as opposite to the anticipated direction in the hypothetical model

Source: developed for this research.

### 6.5.6 Step six: structural model modification

After evaluating the structural model, the last step involved model modification. A model is correctly specified when it reproduces the sample covariance matrix well or, in other words, a model with a good fit is produced; this model can be described as the true model (Schumacker & Lomax 2004). This concerns the extent to which the hypothesised model is consistent with the true model. The hypothesised model is mis-specified when it is inconsistent with the true model and reproduces the sample covariance matrix poorly. The mis-specification of the model was created from the omission and/or inclusion of variables or parameters. Specification error occurs when the mis-specified model produces biased parameter estimates. Thus, it is important to respecify the hypothesised model with the aims of identifying the true model and improving model fit (Holmes-Smith, Cunningham & Coote 2007). Two procedures could be done to perform a specification search, including an examination of the critical ratios (t-values) and modification indices (Diamantopoulos & Siguaw 2000; Schumacker & Lomax 2004).

**Critical ratios (t-values).** To begin, the statistical significance of each estimated parameter in the hypothesised was examined. The ratio of the parameter estimate was compared to its estimated standard error; this critical ratio can be interpreted as a t-value. All parameter estimates should be in the expected direction and statistically different from zero (that is, the critical ratio is larger than  $\pm 1.96$ , at the  $\alpha = 0.05$  significance level). As shown in Table 6.14, not all the hypothesised relationships were within the acceptable range. Therefore, some sub-hypotheses were rejected as discussed in the previous sub-section.

**Modification indices.** The second step was to modify the model according to the modification indices to improve model fit (Hair et al. 2006). This could proceed by estimating the parameters associated with the largest modification indices. However, this approach had to be driven by a theoretical rationale for the estimated parameter rather than by the survey data (Diamantopoulos 1994; Holmes-Smith, Cunningham & Coote 2007; Jöreskog & Sörbom 1996; Tabachnick & Fidell 2007). If there is substantive theory suggesting that a variable or a relationship should be included in a model, it should be left in the model even if it does not contribute to the model's overall fit (Jöreskog & Sörbom 1996). In this research, the modification indices shown in the Amos output indicated that no index for all the paths in the structural model exceeded the criteria. That is, there was no correlation between the individual exogenous constructs in the main model.

In brief, although some of the critical ratios for the regression coefficients suggested they should not remain in the model, none of the modification indices showed any mis-specified parameters. This suggested that the hypothesised model was correctly specified at least in part and did not require re-specification.

**Summary of the SEM and hypotheses testing.** To sum up, the various measures of overall model goodness-of-fit and the strength of paths provided sufficient support for viewing the final confirmed model as an acceptable representation of the hypothesised constructs and their relationships. Table 6.17 summarises the results of the testing of the research hypotheses with the three research questions. Some of these results provided good support for the hypotheses, while others were not supported.

Table 6.17 Summary of findings for research questions and hypotheses

No.	Research questions/hypothesis	Supported or not supported
<b>RQ 1: How do the antecedents of strategic networking affect the intensity of collaborative relationships?</b>		
H1.1	Commitment is positively associated with asset specificity.	<b>Supported</b>
H1.2	Trust is positively associated with asset specificity.	Not supported
H1.3	Reputation is positively associated with asset specificity.	Not supported
H1.4	<i>Guanxi</i> is positively associated with asset specificity.	Not supported
H1.5	Commitment is positively associated with relationship continuity.	Not supported
H1.6	Trust is positively associated with relationship continuity.	<b>Supported</b>
H1.7	Reputation is positively associated with relationship continuity.	<b>Supported</b>
H1.8	<i>Guanxi</i> is positively associated with relationship continuity.	Not supported
H1.9	Commitment is negatively associated with size of supplier base.	Not supported
H1.10	Trust is negatively associated with size of supplier base.	<b>Supported</b>
H1.11	Reputation is positively associated with size of supplier base.	<b>Supported</b>
H1.12	<i>Guanxi</i> is negatively associated with size of supplier base.	Not supported
<b>RQ 2: How do the antecedents of strategic networking affect transaction costs?</b>		
H2.1	Commitment is negatively associated with transaction costs.	Not supported
H2.2	Trust is negatively associated with transaction costs.	<b>Supported</b>
H2.3	Reputation is positively associated with transaction costs.	<b>Supported</b>
H2.4	<i>Guanxi</i> is negatively associated with transaction costs.	Not supported
<b>RQ 3: How does the intensity of collaborative relationships affect transaction costs?</b>		
H3.1	Asset specificity is negatively associated with transaction costs.	Not supported (with contradictory finding)
H3.2	Relationship continuity is negatively associated with transaction costs.	<b>Supported</b>
H3.3	Size of supplier base is positively associated with transaction costs.	Not supported

Source: data collected for this research.

## **6.6 Chapter conclusion**

This chapter reported the results of the data analysis for the main study. Firstly, this chapter indicated the data preparation including data coding and cleaning. After the data were prepared, the profile and analysis of respondents and their corresponding firms were described. Then, a preliminary analysis was conducted checking for missing data, non-response error, outliers and distribution normality. Structural equation modelling was then used to test the models developed from the literature review and case research. The results of this analysis indicated that the data fit the model and some of the research hypotheses were confirmed through the SEM results. The conclusions and implications of these results are discussed in the next and final chapter.

## *Chapter 7 Conclusions and implications*

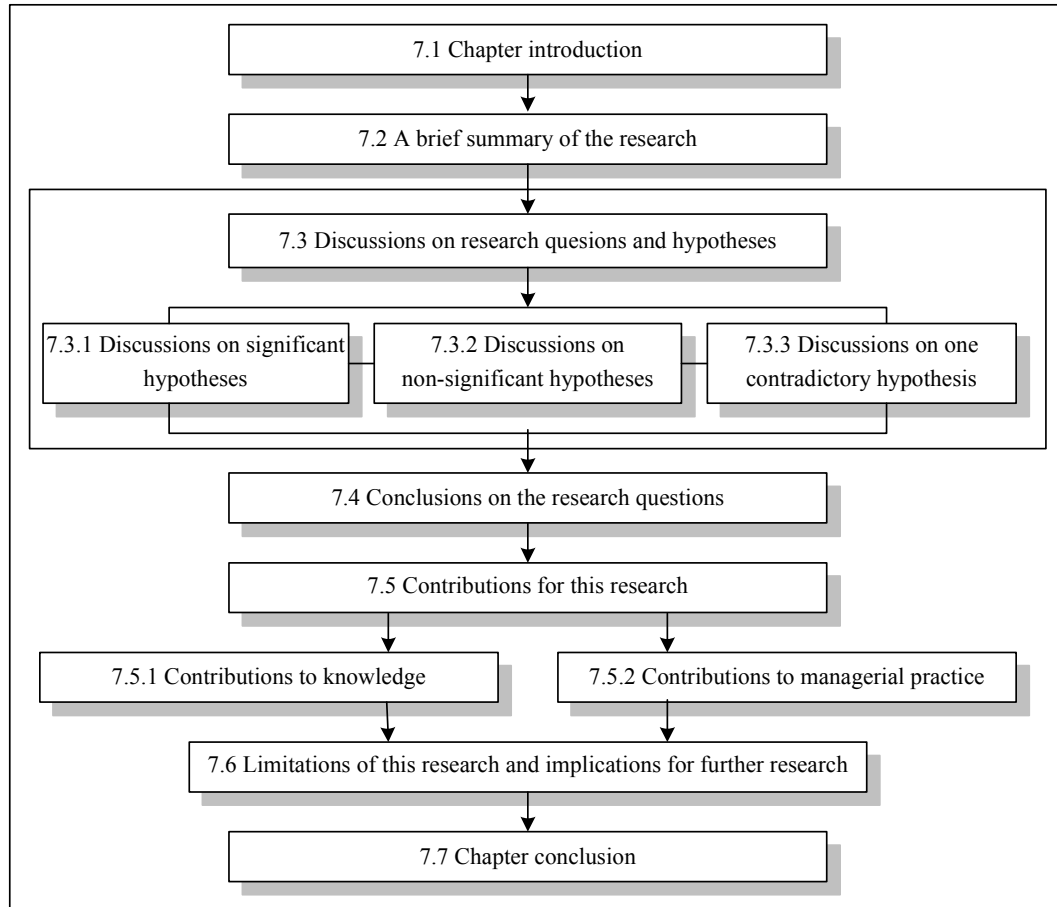
### **7.1 Chapter introduction**

This final chapter reports the conclusions of the research. This section compares and contrasts the case research findings in Chapters 3 and survey findings in Chapter 6 with the literature in Chapter 2 to indicate the ways in which this research advances the literature and contributes to the body of knowledge.

Section 7.1 introduces the chapter first. Then, the entire thesis is summarised in Section 7.2. Conclusions about each of the three research questions derived from the research problem and their related hypotheses are described in Section 7.3. Sub-section 7.3.1 explains the final confirmed model and the confirmed sub-hypotheses; Sub-section 7.3.2 presents the discussions on non-significant sub-hypotheses; Sub-section 7.3.3 discusses one contradictory finding. Section 7.4 describes the conclusions about the research problem.

The contributions to knowledge and managerial practice in Section 7.5 highlight the significance of this research and the research problem. This chapter concludes by discussing the limitations of the research and recommending topics for further study in Section 7.6. Section 7.7 concludes this thesis. This chapter, with section numbers and their relationships, is outlined in Figure 7.1.

Figure 7.1 Outline of Chapter 7, with section numbers and interrelationships



Source: developed for this research.

## 7.2 A brief summary of the research

Chapter 1 covered the background of the research project. The research problem ‘*How does strategic networking between buyers and suppliers reduce transaction cost?*’ was defined, and objectives were introduced. Then, three research questions were derived from the research problem (Table 7.1). The significance of this research was justified in terms of the insufficient prior research on the topic and the need to include Asian culture in strategic network studies. The methodology and definitions used in this research were explained.

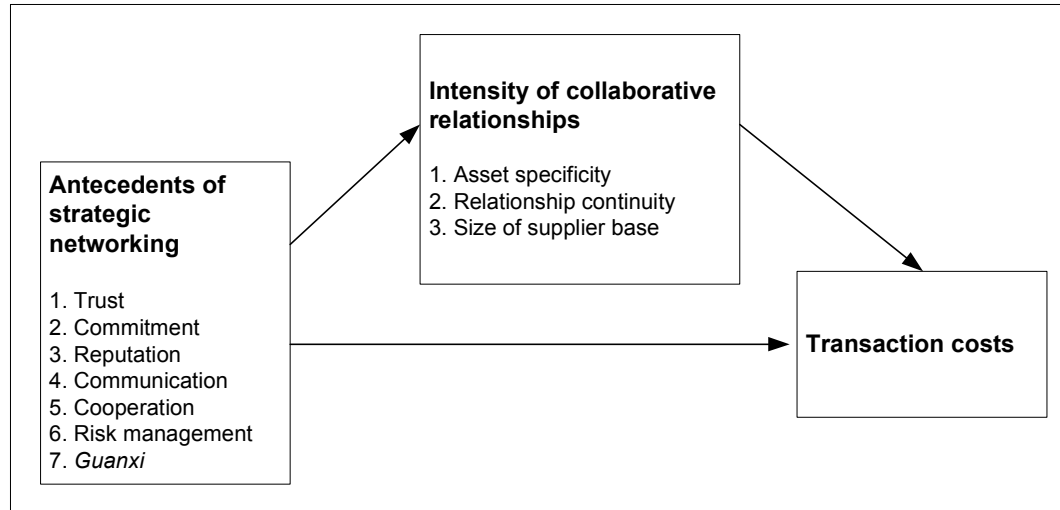
Table 7.1 List of research questions

	Research question
1	How do the antecedents of strategic networking affect the intensity of collaborative relationships?
2	How do the antecedents of strategic networking affect transaction costs?
3	How does the intensity of collaborative relationships affect transaction costs?

Source: developed for this research.

Chapter 2 reviewed the literature on the research problem and identified gaps in the theory. Based on this literature review, a preliminary theoretical framework for this research was established in Section 2.5 and re-illustrated in Figure 7.2.

Figure 7.2 Preliminary theoretical framework of collaborative strategic networks



Source: developed for this research (from Figure 2.3).

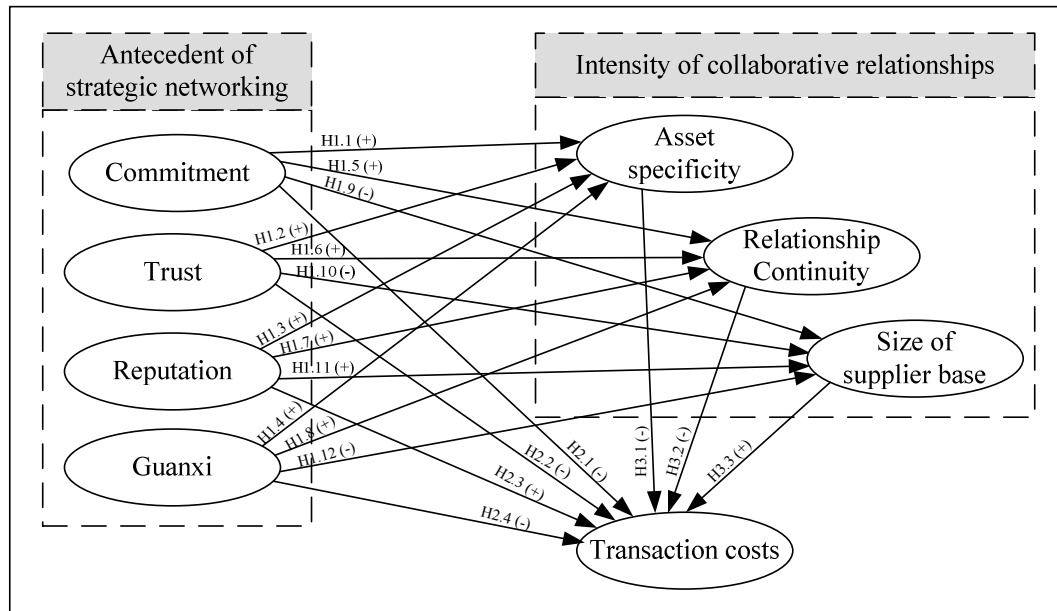
This study adopted a two-stage research design. Chapter 3 described the case research methodology used in Study One. The results of this case research were used as a foundation for developing linkages among the constructs within the theoretical framework. Three antecedents – communication, cooperation and risk management – were less important in the practice of strategic networking in the clothing industry, so these antecedents were not tested in the main survey study while the remaining four – commitment, trust, reputation and *guanxi* – were kept for further study in stage two. In turn, three main hypotheses were established in Chapter 4 and restated in Table 7.2. A comprehensive theoretical framework with 19 sub-hypotheses was developed in Chapter 4 and re-illustrated in Figure 7.3.

Table 7.2 List of research hypotheses

	<b>Research hypothesis</b>
H1	Antecedents of strategic networking (commitment, trust, reputation and <i>guanxi</i> ) are associated with intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base).
H2	Antecedents of strategic networking (commitment, trust, reputation and <i>guanxi</i> ) are associated with transaction costs.
H3	Intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base) is associated with transaction costs.

Source: developed for this research.

Figure 7.3 Comprehensive theoretical framework of collaborative strategic networks



Source: developed for this research (from Figure 4.3).

Study two of this research used a survey methodology. Chapter 5 presented a justification for the survey methodology and described the steps taken in conducting the survey. Chapter 6 analysed the survey data, including the profile and analysis of respondents, preliminary analysis, development of the measurement and structural models, and hypotheses testing in the main model. The final confirmed theoretical framework was developed after data analysis, in which eight sub-hypotheses were confirmed. The confirmed framework is shown in Figure 6.3 and re-illustrated in Figure 7.4, and is discussed in the next section. This last chapter presents conclusions and discussions of the research.

### 7.3 Discussions on research questions and hypotheses

This section outlines the discussion of each hypothesis. The final confirmed model and the eight significant sub-hypotheses are discussed in Sub-section 7.3.1. Sub-section 7.3.2 discusses each of the ten non-significant sub-hypotheses and Sub-section 7.3.3 presents a discussion on one contradictory finding: H3.1.



### 7.3.1 Discussions on significant hypotheses

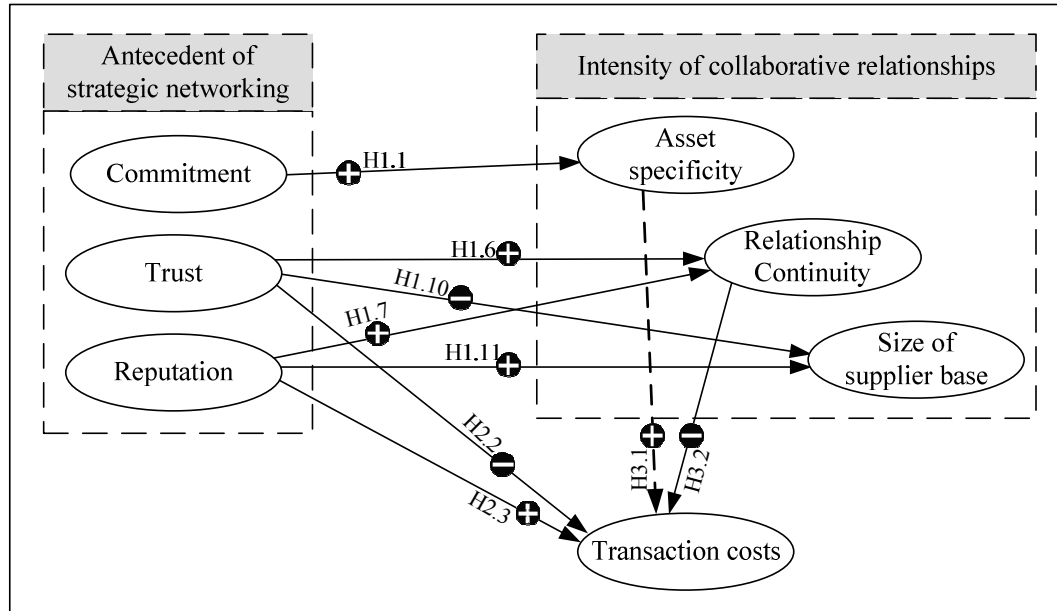
This sub-section concludes and discusses each of the eight significant sub-hypotheses. Hypothesis 1 was partially supported, in which Sub-hypotheses 1.1, 1.6, 1.7, 1.10 and 1.11 were significant. Hypothesis 2 was also partially supported, in which Sub-hypotheses 2.2 and 2.3 were significant. Lastly, Hypothesis 3 was again partially supported, in which Sub-hypothesis 3.2 was significant. Table 7.3 shows eight significant sub-hypotheses; Figure 7.4 shows the final confirmed theoretical framework.

Table 7.3 The eight significant hypotheses

<b>Research hypothesis</b>	
<b>H1: Antecedents of strategic networking (commitment, trust, reputation and <i>guanxi</i>) are associated with intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base).</b>	
H1.1	Commitment is positively associated with asset specificity.
H1.6	Trust is positively associated with relationship continuity.
H1.7	Reputation is positively associated with relationship continuity.
H1.10	Trust is negatively associated with size of supplier base.
H1.11	Reputation is positively associated with size of supplier base.
<b>H2: Antecedents of strategic networking (commitment, trust, reputation and <i>guanxi</i>) are associated with transaction costs.</b>	
H2.2	Trust is negatively associated with transaction costs.
H2.3	Reputation is positively associated with transaction costs.
<b>H3: Intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base) is associated with transaction costs.</b>	
H3.2	Relationship continuity is negatively associated with transaction costs.

Source: developed for this research.

Figure 7.4 A final confirmed theoretical framework



Note: -----► indicates the relationship of H3.1 as opposite to the anticipated direction in the hypothetical model, and is discussed in Section 7.3.3

Source: developed for this research (from Figure 6.3).

**Sub-hypothesis 1.1** describes the positive relationship between manufacturers' commitment and their investments in specific assets. The survey findings supported the hypothesis that asset specificity was positively influenced by commitment (Sub-section 6.5.5).

This finding is consistent with the theoretical argument that manufacturers who invest specific assets in their partners have a strong commitment to those firms (Anderson & Weitz 1992). The literature suggests that if suppliers show a willingness or commitment to adapting their manufacturing and technical capabilities to meet the buyer's requirements, the buying firms are more likely to provide assistance, devote their own resources and make investments in their suppliers in return (Lee & Humphreys 2007). In fact, the commitment of buyers to establishing stable and long-term relationships is an incentive for buyers to make specific investments, and mitigates the risk of short-term opportunistic behaviour (De Toni & Nassimbeni 2000). Therefore, the survey findings are consistent with the literature that buyers' commitment increases their investment in specific assets.

In addition, according to the findings of the case research in Chapter 3, manufacturers who were committed to the network relationship were more willing to adjust their production schedule to suit their suppliers (Sub-section 3.4.2: CRQ 2-commitment and CRQ 4). Confirming the literature's earlier conclusions, this research supports the hypothesis that commitment is positively associated with investments in specific assets.

***Sub-hypothesis 1.6*** indicates a positive association between trust and relationship continuity. The survey findings supported the positive relationship between buyers' trust and their willingness to continue the exchange relationship (Sub-section 6.5.5).

The survey findings confirm the theoretical argument that trust enhances the desire to collaborate and ensures the long-term stability of a networking relationship (Chang & Harwood 2001; Heide & John 1990; Pruitt 1981). With the premise of relational exchange, repeat transactions between firms may enhance the development of trust over time (Anderson & Weitz 1989). In addition, when a business relationship is longstanding, it may survive in a critical period of conflict as trust has already been built from previous experience and mutual understanding (Anderson & Weitz 1989). When partners consistently keep their promises (Anderson & Weitz 1989; Doney & Cannon 1997; Schurr & Ozanne 1985) and act in the best interests of other partners based on the established relationship (Wilson 1995), the networking relationships are more likely to remain stable and to continue (Anderson & Weitz 1989). Trust is built in order to create stable and longer term exchange relationships. Ultimately, a closer connection between manufacturers and suppliers develops.

In the case research, trust was also found to contribute to the continuance of relationships with suppliers (Sub-section 3.4.2: CRQ 2-trust). Confirming the earlier conclusions, this research supports the hypothesis that trust is positively associated with relationship continuity.

***Sub-hypothesis 1.7*** suggests that reputation of a buying firm is positively associated with relationship continuity. The survey findings also showed that a buying firm's reputation was positively related to the continuance of a relationship (Sub-section 6.5.5). This significant link affirms the importance of reputation in the continuance of relationships with suppliers.

Relational exchange theory advocates that a good reputation and network identity could lead to good relationships with suppliers (Anderson, Hakansson & Johnason 1994). In addition, the evidence of survey study showed that this theoretical argument is consistent with the findings from the case research, that globally reputable manufacturing firms usually developed and maintained their business relationships with suppliers who were known for product quality, fabric innovation and/or talented employees. These large manufacturing firms tended to give large purchase orders to their major suppliers and thus were more likely to continue their relationships with suppliers over the long run (Sub-section 3.4.2: CRQ 2-reputation). This insight is consistent with the argument that a buyer's reputation could enhance the continuance of a relationship with suppliers (Anderson, Hakansson & Johnason 1994).

***Sub-hypothesis 1.10*** describes the negative association between trust and the size of a supplier base. As hypothesised, the survey findings showed that trust was negatively and significantly related to size of supplier base (Sub-section 6.5.5). This finding supported the literature arguing that manufacturing firms value in trust concentrate on several major fabric suppliers with large company size (Kahn 2004). These firms develop fewer but deeper supplier relationships, making trust an important criterion between the firms and their suppliers.

Results from the case research also indicated that trust is negatively related to the size of the supplier base (Sub-section 3.4.2: CRQ 2-trust and CRQ 4). As an optimal number of suppliers could enhance efficiency, most of the interviewees traded with only a small number of fabric suppliers. They had confidence in their suppliers and believed these suppliers could help them satisfy their customers. Therefore, the significant finding of this hypothesis is an important extension of recent views of the association between trust and the size of supplier base, in which the higher the level of trust in making reliable promise to their suppliers, the smaller the number of suppliers in a relational transaction setting.

***Sub-hypothesis 1.11*** examines the positive relationship between reputation and size of supplier base. The survey findings showed a positive association between a manufacturer's reputation and number of suppliers (Sub-section 6.5.5).

This survey finding supports the case research that reputable global clothing firms prefer a larger supplier base in order to increase their flexibility and enhance their purchasing efficiency (Sub-section 3.4.2: CRQ 2-size of supplier base). Indeed, both sizable and reputable firms needed not required to invest substantial time in searching for new suppliers, because they already attracted many fabric suppliers (Sub-section 3.4.2: CRQ 2-reputation). In addition, these firms had to purchase many varieties of fabrics, so they could not afford to rely on a small supplier base. Therefore, survey findings are consistent with the case research that reputable buying firms must develop a more flexible and larger supplier base.

**Sub-hypothesis 2.2** shows the negative association between trust and transaction costs. As hypothesised, the survey findings confirm that trust was negatively related to transaction costs (Sub-section 6.5.5). This finding is consistent with the foundation work in TCA that the generation of trust is an important factor in lowering transaction costs and making the existing strategic network economically feasible (Barney & Hansen 1994; Dyer 1997; Dyer & Chu 2003; Jarillo 1993; McEvily, Perrone & Zaheer 2003; Uzzi 1997; Zaheer, McEvily & Perrone 1998). Indeed, a recent study by Dyer and Chu (2003) reveal that, by lowering transaction costs in networking relationships, trustworthiness could become a source of competitive advantage. In other words, trust reduces the use of formal contracts, which are costly and time-consuming to write, monitor and enforce, and which in turn, minimise transaction costs by eliminating or limiting both *ex ante* and *ex post* opportunism (Dwyer, Schurr & Oh 1987; Thorelli 1986; Zaheer & Venkatraman 1995).

In addition, TCA suggests that the renegotiation of initial agreements is inevitable during exchanges in an uncertain environment. Trust can be used to lower the *ex post* enforcement costs in renegotiations and bargaining when an incomplete contract is written (Carson et al. 2003; Zaheer, McEvily & Perrone 1998). Such renegotiation requires time and effort to reach mutually acceptable agreements. A buying firm's promise of credibility can minimise transaction costs and the resources spent on monitoring and enforcing incomplete contracts (Dyer 1997; Dyer & Chu 2003).

This argument was also consistent with the findings from the case research, that trust is negatively associated with transaction costs (Sub-section 3.4.2: CRQ 2-trust). When manufacturers developed trust with suppliers by keeping promises and providing

reliable information, a trustworthy relationship developed. In turn, manufacturers' transaction costs of contracting with and monitoring suppliers were reduced. Therefore, the higher the level of trust, the lower the transaction costs.

***Sub-hypothesis 2.3*** states that reputation is positively associated with transaction costs. The survey findings showed that the reputation of a buying firm was positively associated with its transaction costs (Sub-section 6.5.5). The significant finding of this hypothesis is an important theoretical extension of the positive association between the two constructs.

Indeed, findings of both case research and survey indicated that a buying firm's positive reputation increased its monitoring costs, while decreasing the related contracting and reinforcement transaction costs (Sub-section 3.4.2: CRQ 5). Firms with a good reputation must maintain a diversified supplier base providing high quality fabrics in order to meet increasing customer demand, so the monitoring costs of maintaining a diversified supplier base were high. Larger and reputable firms tend to put more resources than smaller and less reputable firms, with more flexibility to devote resources to strategic purchasing activities (Boyer, Ward & Leong 1996). Thus, larger firms can devote more resources to monitoring suppliers, which is consistent with the survey findings. Moreover, in the exploration phase of networking relationships (Sub-section 2.4.2) (Selnes 1998), in order to maintain a high product quality, large firms monitor the production and quality standards of supply firms by periodically visiting their site, not only by inspecting their incoming fabrics in the manufacturing plants (Burt 1989). This arrangement also incurs a higher monitoring transaction costs. Therefore, this insight is consistent with the theoretical argument that the better reputation of a firm leads to higher transaction costs.

***Sub-hypothesis 3.2*** posits a negative relationship between relationship continuity and transaction costs. Consistent with arguments on the literature and case research, the survey findings showed a negative relationship between the willingness to continue a relationship and the expense to operate transactions (Sub-section 6.5.5).

The benefit of long-term relationships with networked partners is the reduction in transaction costs related to search and start-up costs of frequently dealing with new partners (Gundlach, Achrol & Mentzer 1995). Repeated transactions may create more

opportunities to correct transaction inequities in future exchanges, which in turn, reduces bargaining costs. Transaction costs decrease over a longer period of time because the non-contractual safeguard mechanisms, such as trust, can control opportunism and protect transaction-specific investments (Dyer 1997). Transaction costs can also be reduced in the long term because the cost of sharing information goes down, and so do *ex ante* and *ex post* bargaining costs (Dyer 1997). Therefore, the greater the willingness to continue the relationship with suppliers, the lower the transaction costs in the long-term exchange relationships.

### 7.3.2 Discussions on non-significant hypotheses

According to the findings of data analysis, ten sub-hypotheses cannot be confirmed. This sub-section discusses the possible reasons of each of these non-significant sub-hypotheses. In Hypothesis 1, seven sub-hypotheses were not significant: H1.2, H1.3, H1.4, H1.5, H1.8, H1.9 and H1.12. In Hypothesis 2, two sub-hypotheses – H2.1, H2.4 – were not significant. Lastly, one sub-hypothesis – H3.3 – was not significant. Table 7.4 shows three hypotheses with those non-significant sub-hypotheses.

Table 7.4 Non-significant hypotheses

Research hypotheses	
<b>H1: Antecedents of strategic networking (commitment, trust, reputation and <i>guanxi</i>) are associated with intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base).</b>	
H1.2	Trust is positively associated with asset specificity.
H1.3	Reputation is positively associated with asset specificity.
H1.4	<i>Guanxi</i> is positively associated with asset specificity.
H1.5	Commitment is positively associated with relationship continuity.
H1.8	<i>Guanxi</i> is positively associated with relationship continuity.
H1.9	Commitment is negatively associated with size of supplier base.
H1.12	<i>Guanxi</i> is negatively associated with size of supplier base.
<b>H2: Antecedents of strategic networking (commitment, trust, reputation and <i>guanxi</i>) are associated with transaction costs.</b>	
H2.1	Commitment is negatively associated with transaction costs.
H2.4	<i>Guanxi</i> is negatively associated with transaction costs.
<b>H3: Intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base) is associated with transaction costs.</b>	
H3.3	Size of supplier base is positively associated with transaction costs.

Source: developed for this research.

The survey finding of *Sub-hypothesis 1.2* indicated that the association between trust and asset specificity was not significant (Sub-section 6.5.5), which contradicts theoretical arguments that trust has a positive effect on transaction-specific investments (Fynes, Voss & Burca 2005).

There are three explanations for these findings. Firstly, although there are empirical studies on strategic networking between exchange partners, most of the evidence is drawn from the automobile (Dyer 1996b; Morgan & Hunt 1994), electronics (Anderson & Weitz 1989; Zaheer, McEvily & Perrone 1998), industrial original equipment (Heide 1994) and chemical manufacturing industries (Stump & Heide 1996); all of which demand the investments of a considerable amount of specific assets in order to protect their transactions. Since specific investments are rarely found in the clothing industry, the influence on asset specific is therefore not significant.

Secondly, most of the survey respondents in this research are small and medium enterprises (SMEs). They have insufficient resources to invest specific assets in their suppliers. Moreover, some manufacturers are not confident in their suppliers' ability to provide quality fabric, or suspect possible problems for their business. Thus, manufacturers may not want to make any more than minimal investments in supplier assets.

Thirdly, Dwyer, Schurr and Oh (1987) argue that the relationships between partners develop over time. When they gain experience and learn to trust each other, they will increase their investments in transaction-specific assets in products, processes or people. However, there is some uncertainty in the relationships between networked partners if the networking relationship is in the exploration or expansion phase. The relationship between partners is fragile and there is minimal investment in resources (Dwyer, Schurr & Oh 1987). Many firms in the study may have relationship with their supplier in the exploration or expansion phase. Hence, these specific investments in these phases may be small.

The survey finding of *Sub-hypothesis 1.3* found no significant positive relationship between reputation and asset specificity, so this hypothesis was not supported (Sub-section 6.5.5). This is contrary to existing literature that firms with a good reputation are more willing to commit a specific asset to the relationship with partners



(Gundlach, Achrol & Mentzer 1995). There are two reasons for this finding. Firstly, only large and reputable companies are likely to invest specific assets in its suppliers. Many of the survey respondents are SMEs, so they are less likely to invest in specific physical and human assets in their suppliers because they have only limited resources. Secondly, reputation may not influence asset specificity when the material purchased is easy to find. If the fabric purchased is common and easily obtained, it will not be difficult for manufacturers to find other suppliers. Thus, when the sourcing agreement with suppliers is ceased, buying firms do not have a problem searching for other suppliers that can provide the specific materials needed. In brief, the relationship between reputation and asset specificity is not applicable to the clothing industry.

The survey finding of ***Sub-hypothesis 1.4*** demonstrated that *guanxi* was not positively related to the investment in specific assets (Sub-section 6.5.5), which contradicts the existing literature. The major explanation is that *guanxi* involves not only physical investments, but also include friendship with continued and reciprocal exchange of favours (Pye 1992; Tsang 1998). The provision of constant help to a person with or without receiving a favour in return is one type of *guanxi* (Buttery & Leung 1998). Moreover, *guanxi* can be indicated by cultivating relationships with flexible arrangements (Leung, Wong & Wong 1996). Thus, a firm's *guanxi* with its partners may or may not associate with transaction-specific investments. A better *guanxi* relationship helps a firm recognise the abilities of supply firms and personality of its partner. Very often, firms under study would rather offer constant help, such as provide solutions for fabric quality improvement, instead of physically invest in specific assets tailored to its partner. Therefore, having good *guanxi* with suppliers does not necessary lead to manufacturers' investments in specific assets.

The survey finding of ***Sub-hypothesis 1.5*** found no significant positive association between commitment and relationship continuity (Sub-section 6.5.5). The survey findings are not consistent with the literature, which suggests that commitment requires long-term investments, so relationships between partners take time to build and evolves in the long run (Selnes 1998). The literature also suggests that when high levels of satisfaction are needed and benefits are achieved from the exchange process, buyer-seller interdependence develops. Then, a positive reinforcement increases the level of commitment by both parties over time (Selnes 1998). Therefore, commitment leads to the continuity of buyer-seller relationships (Heide & John 1990).

However, the survey findings showed a contradictory finding that commitment is not significantly related to relationship continuity. One possible explanation is that large companies do not always make a major commitment to their suppliers. Large companies serve their customers better by finding the most suitable supplier. In fact, as they can place larger purchase orders with their suppliers, they have more bargaining power and are not required to accommodate their fabric requirements to what a supplier can provide. If suppliers cannot fulfil their requirements, they can simply change suppliers. This situation is also applicable to SMEs, who choose the most suitable suppliers in the market. Therefore, the association between commitment and the willingness to continue a supplier relationship is uncertain.

The survey finding of *Sub-hypothesis 1.8* showed that the existence of *guanxi* among partners was not positively associated with the willingness to continue the exchange relationships in a strategic network (Sub-section 6.5.5). Contrary to Lee and Humphreys's (2007) argument that in traditional Chinese culture, when developing *guanxi* with suppliers is the corporate culture, the relationships with key strategic suppliers are more likely to be regarded as important and worthy to continue the buyer-supplier relationships. As *guanxi* enhances the personal connections between people instead of between firms, a successful interfirm relationship begins with the establishment of a personal bond between the top executives of the partnering firms (De Mente 1994). In addition, reciprocal exchange of favours in *guanxi* enhances the continuance of the manufacturer-supplier relationship (Bian 1997; De Mente 1994; Lee, Pae & Wong 2001; Leung, Wong & Wong 1996; Lovett, Simmons & Kali 1999; Luo 1997; Millington, Eberhardt & Wilkinson 2006). In the case research findings, interviewees also stated that they usually chose those fabric suppliers with whom they had good *guanxi*. This implies a positive relationship between the presence of *guanxi* and the willingness to continue a steady networking relationship with suppliers (Sub-section 3.4.2: CRQ 3).

Contrary to the findings from the case research and extant literature listed above, the survey findings highlighted a limitation of the practice of *guanxi* in Hong Kong. In actual business practices in Hong Kong, price competitiveness is keen. Meeting customers' target price is very important for manufacturing firms in order to enhance their competitiveness in the market. *Guanxi* with suppliers can easily be ruined by pricing disputes among buyers and suppliers. Thus, when conflicts can not be resolved

amicably, the willingness to continue the relationship will be reduced. Therefore, *guanxi* has little impact on relationship continuity.

The survey finding of ***Sub-hypothesis 1.9*** demonstrated that commitment had no negative impact on the size of the supplier base, so this hypothesis was not supported (Sub-section 6.5.5). This contradicts the literature that firms whose networks consist of a few important suppliers work more effectively, as those suppliers are committed to share the responsibility for the success of the products (Li et al. 2006; Monczka et al. 1998). This non-significant result can be explained by the fact that buyers-suppliers relationships may be at different levels and suppliers may have different competences. Buyers' commitment in the percentage of resources allocated to individual suppliers may vary. Suppliers may not receive the same amount of commitment from their buying firms. Therefore, the hypothesis that the amount of commitment relates to the size of supplier base cannot be confirmed.

The survey finding of ***Sub-hypothesis 1.12*** indicated that *guanxi* was not negatively and significantly related to the size of the supplier base (Sub-section 6.5.5). This survey finding is not consistent with the literature that *guanxi* lead to the development of closer and more integrated supplier relationships (Lee & Humphreys 2007), and that *guanxi* relationship takes time to build. Hence, firms with good *guanxi* with suppliers tend to maintain a smaller supplier base. Results from the case research also showed that some responding firms treasured the *guanxi* relationship with their networked suppliers. However, findings of the survey showed that firms in Hong Kong continued to find new suppliers with different capabilities in order to maintain their competitiveness and flexibility in the market. Thus, they preferred to develop and maintain relationships with a larger number of fabric suppliers (Sub-section 3.4.2: CRQ 3).

The survey finding of ***Sub-hypothesis 2.1*** showed that commitment had no negative impact on transaction costs, so this hypothesis was not supported (Sub-section 6.5.5). This is contrary to Williamson's (1985) proposition that making a credible commitment is a strategy for creating a self-enforcing agreement that lowers transaction costs. The insignificant result of the survey finding could be explained by the fact that the process of acquiring material is very simple and the material purchased is not unique. Many fabric purchase orders are for widely used fabrics that are readily available. Manufacturers are not required to tailor their fabric requirement or to be flexible with

their production schedules for their suppliers, so manufacturers' commitment to their suppliers is limited. The impact of commitment on transaction costs is therefore insignificant.

The survey finding of ***Sub-hypothesis 2.4*** suggested that *guanxi* was not significantly related to transaction costs, so Sub-hypothesis 2.4 was not supported (Sub-section 6.5.5). Contrary to the extant literature suggesting that *guanxi* has been recognised in Chinese societies, contracts are invariably used with the expectation that they will not be fully kept (So & Walker 2006). Transaction costs could be reduced because exchanges occur within a flexible, but relatively permanent and long-term network that reduces potential losses resulting from opportunistic behaviour (Lovett, Simmons & Kali 1999). Moreover, *guanxi* can reduce transaction costs by reducing business risks: such risks can be controlled by ensuring that promises are kept, and this reduces the costs of contract enforcement. Therefore, *guanxi* in Chinese societies helps reduce transaction costs (So & Walker 2006). In addition, results from the case research indicated that good *guanxi* with suppliers reduces transaction costs in terms of contracting and enforcement (Sub-section 3.4.2: CRQ 4-size of fabric supplier base).

Nonetheless, the non-significant survey findings cannot support the above argument. This can be explained by the phenomenon that *guanxi* is being used to disguise corruption in Hong Kong is prohibited and is widely regarded as harmful to a country in the long term (So & Walker 2006). The importance of *guanxi* as a viable alternative to reducing transaction costs is diminishing, so more formal connections, such as negotiation in contract terms and standard inspection of materials, are still needed.

The survey finding of ***Sub-hypothesis 3.3*** demonstrated that the size of the supplier base was not positively associated with transaction costs, so Sub-hypothesis 3.3 was not supported (Sub-section 6.5.5). This result disconfirms Dyer's (1996a) argument that transaction costs could be lowered if there are fewer suppliers as the set-up costs of building a smaller supplier base are lower. Also, the literature suggests that continuous monitoring of the supplier base involves supplier evaluations and site visits (Lee & Humphreys 2007), and these procedures raise transaction costs, so managing a large supplier base involves higher transaction costs. In fact, reducing the number of suppliers with larger volume orders and longer term contracts is a contemporary purchasing approach in many industries (Hutt & Speh 2003).

Managing a smaller supplier base to reduce transaction costs was also found in the case research findings (Sub-section 3.4.2: CRQ 4-size of fabric supplier base). However, the survey findings deny such relationship. The non-significant finding can be explained by the need of the clothing manufacturers to develop a diversified and competent supplier base to survive in a competitive environment. Some small and medium-sized manufacturing firms frequently search for suitable suppliers to reduce their dependence on a small number of suppliers. However, the searching, bargaining, monitoring and contracting costs for new suppliers are high at the beginning of a relationship. When manufacturing firms develop good relationships with suppliers over time, their transaction costs can be lowered. Therefore, the best way to reduce transaction costs is to choose the most suitable governance mechanism: long-term strategic networks with suppliers. That is to say, the size of the supplier base does not necessarily affect transaction costs.

### **7.3.3 Discussions on one contradictory hypothesis**

Survey findings in *Sub-hypothesis 3.1* showed that asset specific was positively associated with transaction costs (Sub-section 6.5.5), which is contradictory to theoretical arguments that transaction-specific investments are negatively associated with transaction costs (Williamson 1975, 1979, 1985). If parties can adopt a relational governance structure, such as strategic networks, to safeguard their specific investments, they can benefit from lower transaction costs, less opportunism and the continuation of their relationship (Macneil 1981; Ring & Van de Ven 1992). Transaction costs in strategic networks decrease over a longer period of time as such non-contractual, self-enforcing safeguard mechanisms can control opportunism and protect transaction-specific investments over an indefinite time horizon (Dyer 1997). Then, firms can simultaneously achieve the twin benefits of high asset specificity and low transaction costs as proposed in the Sub-hypothesis 3.1 (Dyer 1997). To find out the reasons for such contradictory survey findings, post-survey interviews were carried out. A detailed discussion of the post-survey interviews is shown in Appendix 7.1.

The interviewees in this post-survey interviews highlighted that many firms in the industry were in the exploration phase of developing relationships with their suppliers and were not employing any relational mechanisms. In this situation, firms, on one hand, needed to invest in assets such as training their employees to adapt to the working styles

of the new suppliers and in learning suppliers' capabilities, resulting in higher costs in specific asset investments. On the other hand, as firms were starting doing business with new suppliers, a great deal of time and costs were needed to monitor supplier quality and performance, which meant the transaction costs were increased. In addition, under a dynamic and competitive environment, new relationships often generated opportunistic behaviour. To protect their investments from opportunistic behaviour and relationship termination, firms were required to make substantial monitoring costs to prevent the opportunistic behaviour of the suppliers.

Yet, after several seasons of repeat transactions, during which buying firms develop relationships and gain experience with these suppliers, transaction costs will decline gradually. To conclude, increase in investments in specific assets may not lead to a reduction in transaction costs in the exploration phase of a relationship. In order to reduce transaction costs, firms have to cooperate with suppliers for longer time, such as in expansion and maintenance phase.

## 7.4 Conclusions about the research questions

With the individual discussions of the research hypotheses in Section 7.3, this section describes the final revised framework, as shown in Figure 7.4 in page 210. This final framework provides a basis for the discussion of the three research questions.

The survey findings in Chapter 6 showed that not all of the research sub-hypotheses were confirmed. Eight sub-hypotheses were supported while ten sub-hypotheses could not be confirmed and one had a contradictory result. Conclusions about the three research questions on how the antecedents of strategic networking influence the intensity of collaborations among network members, how the antecedents of strategic networking influence transaction costs and how the intensity of collaborative relationships influences transaction costs are made below.

***Conclusion about research question 1: the impact of the antecedents of strategic networking on the intensity of collaborative relationships.*** Results of the hypothesised relationships among the antecedents of strategic networking (commitment, trust, reputation and guanxi) and the intensity of collaborative relationships (asset specificity, relationship continuity and size of supplier base) revealed three sets of relationships.

First, in examining the relationships of commitment, trust, reputation and *guanxi* with asset specificity, only one positive relationship was confirmed: commitment is positively related to asset specificity. This finding provided support for Sub-hypothesis 1.1.

Second, the results examining the relationships of commitment, trust, reputation and *guanxi* with relationship continuity supported Sub-hypotheses 1.6 and 1.7, in which trust and reputation are positively associated with relationship continuity respectively. The remaining two sub-hypotheses related to the impact of commitment and *guanxi* on relationship continuity were not supported.

Third, results of the hypothesised relationships among commitment, trust, reputation and *guanxi* with the size of the supplier base revealed that two antecedents had a significant relationship in terms of the size of the supplier base. Trust is negatively associated with the size of the supplier base, which confirmed Sub-hypothesis 1.10, whereas reputation has a positive relationship with the size of the supplier base as stated in Sub-hypothesis 1.11. Again, commitment and *guanxi* were not negatively related to the size of supplier base.

***Conclusion about research question 2: the impact of the antecedents of strategic networking on transaction costs.*** Research question 2 revealed four relationships of commitment, trust, reputation and *guanxi* with transaction costs. The survey findings supported two hypothesised relationships – trust and reputation on transaction cost: trust is negatively associated with transaction costs, which confirmed Sub-hypothesis 2.2; while reputation is positively associated with transaction costs, which confirmed Sub-hypothesis 2.3. In contrast, two of the hypothesised relationships which depict the relationships between commitment and *guanxi* with transaction costs were not supported.

***Conclusion about Research Question 3: the impact of the intensity of collaborative relationships on transaction costs.*** The conclusion about the third research question is related to the relationships of asset specificity, relationship continuity and size of supplier base with transaction costs. Relationship continuity has a negative association with transaction costs, providing support for Sub-hypothesis 3.2, while the size of the supplier base has little impact on transaction costs, so Sub-hypothesis 3.3 could not be

confirmed. However, asset specificity has a positive association with transaction costs, one that is contradictory to the negative sub-hypothesis of H3.1 between the two constructs.

To sum up, among the four constructs of antecedents of strategic networking, one variable (commitment) has been reported to be a significant predictor of asset specificity, while two variables (trust and reputation) have been reported to be significant predictors of relationship continuity and size of the supplier base. Moreover, two variables of the antecedents of strategic networking (trust and reputation) and two variables of the intensity of collaborative relationships (asset specificity and relationship continuity) have been reported to be significant predictors of transaction costs. Unexpectedly, one construct – *guanxi* – has no impact on any of the constructs. In conclusion, there are mixed results on both positive and negative antecedents of strategic networking and of the intensity of collaborative relationships on transaction costs. Overall, developing collaborative relationships between networked partners is still a viable means of achieving the benefits of reducing transaction costs. Firms must develop long-term relationships with strategic partners by dedicating the resources to develop commitment, trust and reputation.

## 7.5 Contributions of this research

This section describes the contributions to knowledge and managerial practice of this research based on the literature review, findings from case research, survey and post-survey interviews.

### 7.5.1 Contributions to knowledge

Existing network theories, most of which are based on Western countries (for example, Anderson & Weitz 1992; Heide & John 1990; Wathne & Heide 2004), pay insufficient attention to network collaborations in Asia (Gulati, Nohria & Zaheer 2000) (Section 1.3). In this research, the survey findings partly confirmed the applicability of networking theory developed in the West to an Asian context. The complexity of Asian cultures is a challenge to researchers, as cultural factors offer an opportunity to refine both empirical understanding and theoretical development of strategic networking in the Chinese societies. This study makes four key contributions to the knowledge of strategic networking and to *guanxi* as a cultural factor.



**Theories integration on strategic networking.** From a theoretical standpoint, it is noteworthy that the existing models of interfirm governance have been broadened from the final confirmed theoretical framework, which contributes to the literature on manufacturer-supplier networking relationships. Three theories, transaction cost analysis, relational exchange and social capital, which have been widely adopted in Western literature (Batt 2008; Dwyer, Schurr & Oh 1987; Heide 1994; Kaufmann & Stern 1988; Macneil 1978, 1980; Rindfleisch & Heide 1997; Williamson 1975, 1979, 1985), are integrated, forming a comprehensive theoretical framework for this research. Despite the considerable number of empirical studies using these three theories, there has been little empirical research integrating theoretical perspectives with cultural influences in Hong Kong.

In addition, this research incorporates the manufacturer-supplier relationships in strategic networks from three perspectives: antecedents of strategic networking, intensity of collaborative relationships, and transaction costs. This integration is crucial as the three sets of concepts provide complementary insights into a theoretically and empirically important phenomenon. Support for some of the hypotheses suggests that these concepts cannot by themselves provide a complete understanding of the phenomenon. Rather, as this study empirically demonstrates, the combination of variables refines the understanding of organisational behaviour. In other words, a combination of commitment, trust and reputation, except *guanxi* is imperative in investing specific assets, fostering continued relationships with networked partners, maintaining an optimal sized supplier base, and reducing transaction costs.

**Applicability of Western theories to the Chinese context.** Findings from the survey indicated that eleven sub-hypotheses were rejected, contradicts the theoretical arguments in Chapter 2 and Chapter 4. For example, Sub-hypothesis 1.2 shows a non-significant path between trust and asset specificity which historically stems from TCA. Therefore, TCA should be generalised to other industry settings and other cultural societies with caution. Although previous studies offer both quantitative and qualitative evidence in networking relationships between exchange partners, such evidence is drawn from other industries such as automobile (Dyer 1996b; Morgan & Hunt 1994), electronics (Anderson & Weitz 1989; Zaheer, McEvily & Perrone 1998), industrial original equipment (Heide 1994), ball and roller bearings (Noordewier, John & Nevin 1990), food (Selnes 1998) and chemical manufacturing (Stump & Heide 1996). Little

empirical research has focused on strategic networks between buyers and suppliers in the clothing industry (Wathne & Heide 2004). The application of TCA to other industries may be different from clothing industry.

Notwithstanding, TCA and relational exchange were developed in the West decades ago, the contradictory evidence of non-significant links among variables is likely to encompass the integrated effects of Chinese and Western culture in Hong Kong's business environment. Therefore, this study contributes to the literature that special institutional and cultural background of Hong Kong do influence the generalisability of theoretical arguments developed in the West. That is why the study of strategic networking in Hong Kong cannot fully replicate the study from the Western context.

***Impact of guanxi on Hong Kong.*** Another important contribution to the knowledge is the understanding of the *guanxi* effect in Hong Kong. The survey findings did not confirm any of the hypotheses related to *guanxi*. This interesting counterintuitive finding contradicts earlier research on the social capital paradigm (Batt 2008; Theingi, Purchase & Phungphol 2008). Therefore, the interpretation of this result should be done carefully as the impact of *guanxi* varies among Chinese societies.

In the early stage of this research (Chapter 2), the reviewed literature showed that in order to understand the nature of strategic networking better, it is important to consider Asian cultural factors, especially *guanxi* (Humphreys, Shiu & Chan 2001). Firms in Asian countries like Hong Kong, a region with a large Chinese population, involve more personal factors such as *guanxi*, than those in Western countries. Ignorance of Asian embedded strategic networks may preclude a complete understanding of firm behaviour (Gulati, Nohria & Zaheer 2000). Although from the case research, *guanxi* is perceived as a prerequisite in smoothing business transactions between partners, in essence, survey findings defy this conclusion.

Hong Kong is a Chinese-dominated society, yet, its *guanxi* effect is negligible. However, the survey research revealed that the adoption of *guanxi* in business environment in Hong Kong is different from that of other Chinese economies. The first reason for the small impact of *guanxi* in this research is that the target respondents are Hong Kong clothing manufacturing firms, which have different business behaviour and norms from other Chinese societies. Furthermore, the socioeconomic and political systems of China

and Hong Kong are very different. China is a highly regulated and government-involved economy, while Hong Kong is a capitalist economy (Deng & Dart 1995) with an open market economy in which private firms form the majority of the economic base (Sin et al. 2003).

Hong Kong is a former colony of the United Kingdom and firms in Hong Kong have been doing business directly with the West for many decades (Lee & Humphreys 2007). Hong Kong has an advanced political organisation, educational system and way of life that are intensely influenced by Western culture (Lee 2003). Even after the handover of Hong Kong from the United Kingdom to China in 1997, the PRC government promised to maintain Hong Kong as a bastion of free market capitalism for at least 50 years (Sin et al. 2003). Moreover, the attitude of practitioners in Hong Kong in managing networking relationships may not be identical to that of practitioners in other Chinese business communities (Lee & Humphreys 2007). Therefore, business practices in Hong Kong are distinctively different from those of China.

The second reason for the small impact of *guanxi* in this research is that manufacturers in Hong Kong prefer not to spend extra time on social activities in order to conduct business (Leung & Wong 2001). They would rather provide extra help in solving the problems of their suppliers or offer extra knowledge or skills to these partners if additional company resources were not required.

The third possible explanation for the insignificant survey findings is that *guanxi*, such as a brotherhood relationship or friendship, is not always perceived as an important factor in conducting business with supply firms in Hong Kong. Unlike buying firms in China, which give gifts to their suppliers on special holidays, buyers in Hong Kong seldom use *guanxi* to secure relationships with suppliers. Moreover, some buyers may think that placing orders to suppliers already is a kind of favour, so it is not necessary to provide other benefits or favours. Thus, this kind of friendship is not always emphasised when doing business with suppliers from Hong Kong. The practice of *guanxi* in Hong Kong is therefore different from that of other Chinese societies.

***Impact of guanxi on transaction costs.*** The survey findings in this study shed new light on the understanding of the non-significant impact of *guanxi* on transaction costs. *Guanxi* has not been recognised as a market mechanism in the West, where deals must be secured through an expensive and relatively inflexible legal system to enforce formal contractual arrangements. In Hong Kong, such legal contracts are used extensively by buyers to safeguard transactions and specify the obligations of each party. This protection against opportunistic behaviour affects business practice in Hong Kong and incurs high transaction costs (Lovett, Simmons & Kali 1999; So & Walker 2006).

In market-oriented economies like Hong Kong, buyers may not fully recognise the benefits of *guanxi*. This is because purchasing fabric can be a simple process, and there is a large variety of suppliers in different countries. Finding alternative suppliers is not difficult. Manufacturers need not spend much money and time searching for suitable suppliers. As a result, having high levels of *guanxi* with suppliers does not necessarily mean a reduction in transaction search costs. Indeed, if practitioners do not recognise the need to develop *guanxi* with their suppliers or they have a large choice of suppliers, one cannot be certain that *guanxi* affects the searching, contracting, negotiating and enforcement transaction costs.

Nonetheless, in the long run, a *guanxi* relationship has to develop between buyers and suppliers in order to reduce transaction costs. In the exploration phase of developing relationships with suppliers, *guanxi* has not yet been well established. Contracting and negotiating costs may temporarily be higher, but those costs could later decrease. Manufacturers will probably start to trade in small order quantities (So & Walker 2006). The purchase orders offered to suppliers will increase over time. This is a careful way to evaluate the reliability of new suppliers, as small quantities traded in the initial stage reduce business risk. Indeed, *guanxi* does not automatically last indefinitely; it should be nurtured with the increasing time and effort spent by all parties in maintaining the relationship. Repeated transactions can smooth the exchange process as each party becomes familiar with the other's way of doing business. This continuous cultivation strengthens *guanxi* and facilitates business exchanges (Fock & Woo 1998). Handling conflicts with the concern of *guanxi* could also resolve the negative consequences of differing perceptions of goals and roles among parties and reduce the difficulties in managing stress of the network relationship (Dwyer, Schurr & Oh 1987; Selnes 1998). Buyers will find it easier to compromise on a mutually acceptable price and terms with

suppliers when *guanxi* is established; in turn, transaction costs are lowered. In brief, although *guanxi* did not have any impact on any of the constructs in this study, attention should still be paid to this traditional construct on later stages of buyer-supplier relationships.

To conclude, TCA, relational exchange and social capital theories were developed in the West decades ago. The contradictory evidence regarding non-significant links between variables is likely to reflect the integrated effect of Chinese and Western culture in Hong Kong. In addition, the practice of *guanxi* in Hong Kong is not the same as elsewhere in China, so the influence of *guanxi* is not significant in all hypothesised relationships in this study. However, *guanxi* is still important to facilitate business exchange as the influence of China may gradually increase and *guanxi* helps reduce transaction costs in the long run. Therefore, the combined influence of both Western and Chinese culture in Hong Kong generates different views in networking theory.

### **7.5.2 Contributions to managerial practice**

Although the basic concept of networking is well known, decision makers are frustrated in managing the manufacturer-supplier relationships, because these are different from traditional market transactions. Practitioners often underestimate the time and cost required to create and sustain strategic supplier networking (Monczka et al. 1998). This sub-section describes six contributions for managerial practice in the industry.

***Recognition of the importance of strategic networking.*** The first contribution to managerial practice is the recognition of the importance of strategic networking. This research shows that the combination of the antecedents of strategic networking and the intensity of collaborative relationships leads to the reduction of transaction costs, so top management should recognise the importance of strategic networks. Relational-based governance using strategic networks is more effective and influential than contractual-based governance in strengthening and stabilising network relationships, and in acquiring knowledge from partners (Lee & Cavusgil 2006), so strategic networking exerts a widespread influence on business transactions (Miles & Snow 1986). Thus, building a network with dependable suppliers is essential in consolidating a firm's competitive position in the market and in developing organisational competencies that cannot be fulfilled individually (Human & Provan 1997). Due to

integrated management among partners, firms should not attempt to achieve cost reductions or profit improvements at the expense of their networked partners, but rather should aim to create a more competitive strategic network (Romano & Vinelli 2001). Firms could also use networks to overcome the uncertainty and distrust that interferes with exchange transactions.

Different types of information sharing, such as actively participating in development team meetings and providing credible, accurate and timely information on emerging product technologies, may initiate different dimensions of networking performance such as improved quality and reduced cycle time. Certainly, a sophisticated strategic network can increase the competitiveness of a supply chain by reducing costs, shortening lead time and improving quality in every process from raw material sourcing, production and product clearance at customs, to distribution and retailing (Dyer 1994; Lau et al. 2005; Monczka et al. 1998). Therefore, strategic networking enhances the performance of firms. Recognising the importance of collaboration between partners provides many benefits to both parties within a strategic network.

***Top management support in long-term orientation of networking.*** The second contribution to managerial practice is that support from senior management is necessary for the long-term development of strategic networks. Strategic networking management, which has emerged in recent years, is now regarded as a key competitive advantage. When companies outsource their business activities, such as by using their suppliers as business partners, they understand that managing a supply network is more complicated than managing an individual relationship (Wathne & Heide 2004). Thus, top management should support networking with suppliers at the strategic level.

In China, the long-term interaction between manufacturers and suppliers is a series of transactions (Lee & Humphreys 2007). Each transaction is part of a sequence of developing a wider, inter-connected web of suppliers, not an isolated event. Continued transactions enhance commitment and trust between parties. Supplier networking development emphasises a long-term orientation, which requires the support of senior management to ensure the strategic fit between purchasing arrangements and corporate plans. Consequently, manufacturer-supplier networking relationships can be developed over the long term.

***Goal consistency in strategic planning.*** The third contribution to managerial practice is that goal consistency in strategic planning is important in the development of long-term relationships with suppliers. Practice is different from theory. There are always conflicts in defining ‘what is good for the company’ (Wijngaard, Vries & Nauta 2006, p. 401). In strategic planning, there is always inconsistency between policy and operations. Goal consistency is very important in planning and control (Wijngaard, Vries & Nauta 2006). In the case research, one senior executive pointed out that in a large company, the individual who deals with suppliers in daily operations usually occupies a lower position. Therefore, top management must educate employees so that consistent corporate goals can be reached, and that employees will value the development of long-term relationships with strategically important suppliers.

***Importance of guanxi in different societies in Asia.*** The fourth contribution to managerial practice is that the importance of *guanxi* should be noted when doing business in Chinese societies. China’s economic importance is growing, and so is Chinese influence. Thus, the influence of *guanxi* extends throughout East Asia (Lovett, Simmons & Kali 1999). Indeed, foreign investments have been attracted to China because of its economic expansion. Many investors see China as a low-cost manufacturing base and a large market for consumer and industrial goods. However, one of the main concerns for investors is China’s lack of a stable legal and regulatory system and the need to rely on a trust-based personal relationship in order to access resources. Only the use of *guanxi* can facilitate business transactions in China (Lee & Humphreys 2007). The development of *guanxi* is crucial to businesses operating in a Chinese society because strangers rarely engage in important business transactions (Fock & Woo 1998; Kambil, Long & Kwan 2006). Nonetheless, the unique nature of *guanxi* creates a barrier for multinational companies wishing to enter these markets. Foreign entrepreneurs who want to enter China’s market must understand the important fact that *guanxi* helps convert outsiders or strangers to insiders in a Chinese business network. Therefore, they should be capable of using tactics to develop *guanxi* with trading partners in places where Chinese influence is predominant (Monczka et al. 1998).

The small impact of *guanxi* in this research is that there are differences in the practice of *guanxi* across Mainland China, Taiwan, Hong Kong and Chinese communities overseas. Although the long-term personal connections proposed by social capital theory are

predominant in business transactions in East Asian countries, given the strong emphasis on social interactions in places like Hong Kong, Taiwan, Thailand and Japan, the emphasis on organisational affiliations or legal standards is rather weak (Hofstede 1994; Luo 1997; Theingi, Purchase & Phungphol 2008). For instance, both Hong Kong and Taiwan have adopted an open market policy, yet the institutional and cultural background of Hong Kong differs from that of Taiwan, and so does the practice of *guanxi* (So & Walker 2006). Japan and Taiwan have a richer indigenous cultural tradition, whereas Hong Kong and Singapore are more Westernised due to the confluence of Eastern and Western cultures. In addition, the influence of *guanxi* within Thailand is strong, emphasising trust and *guanxi* rather than formal contractual agreements (Theingi, Purchase & Phungphol 2008). Remarkably, business networks in Hong Kong are socially and culturally specific, because Hong Kong principally is a Chinese society, despite having been colonised by the United Kingdom over 150 years (Yeung 1995). Because of its colonial history, Hong Kong has established a well-developed political organisation, education system and way of life intensely influenced by Western culture (Lee 2003). Consequently, strategic networks in Hong Kong synchronise the features of both Chinese *guanxi* and Western networks. Therefore, business practices of Asian cultures are different from those of Hong Kong.

***The practice of guanxi in Hong Kong.*** Meanwhile, the survey findings showed that *guanxi* exerts no influence in any of the dependent variables in Hong Kong. Several concluding remarks for managers can be made. Firstly, if fabric suppliers were based in Hong Kong or in Western countries, the importance of *guanxi* was lower than with China-based suppliers. Firms in Hong Kong are influenced by the market in Western countries, where they do not always practise *guanxi* when doing business.

Secondly, *guanxi* is not homogeneous; it has divergent areas in both definition and use. Practitioners from the West or other non-Chinese cultures must tailor their use of *guanxi* to the profiles of their trading partners in order to ensure its strength and closeness. Thus, continuous effort is required to smooth business transactions (Fock & Woo 1998). Indeed, because of Hong Kong's colonial past, many businesses there have already incorporated Chinese and Western management philosophies into their managerial practices (Enright, Scott & Dodwell 1997). Like firms in Western countries, firms in Hong Kong treasure good relationships with networked partners. At the same time, they tend to build longer term buyer-seller relationships, and to emphasise the importance of



*guanxi*. *Guanxi* still influences the conduct of business in Hong Kong. For example, some companies in Hong Kong stress the principles of harmony, provision of *mianzi* and convenience for suppliers. Partners find it easier to compromise on price and terms when *guanxi* is presented. Total gain could then outweigh the transaction costs for both parties, and in turn, an exchange can proceed (So & Walker 2006). Therefore, *guanxi* is helpful in navigating the negotiation process and in reducing bargaining costs (Leung, Wong & Wong 1996). All of the costs and time needed to build this *guanxi* relationship are worthwhile (Millington, Eberhardt & Wilkinson 2006).

Thirdly, the practice of gift giving from manufacturers to their suppliers was not common in Hong Kong. In the case research, many of the responding firms stated that they did not give presents or invite their suppliers for dinners even for special events like the Mid-Autumn Festival or Lunar New Year. Contrarily, some of their suppliers gave gifts to them and invited them for dinners on special occasions. Therefore, the *guanxi* in Hong Kong is similar to Western countries, whereas in China, the *guanxi* is always a two-way process because Chinese businessmen view gift giving as a polite ritual to save face for both sides, such as by holding a banquet or wining and dining guests on special occasions (Yang 1994). These occasions provide the business person with a good opportunity to return favours (Yang 1994). Furthermore, one of the purposes of gift giving is to generate an emotional relationship (*ganqing*) between two businessmen, and become an insider of a group, and to smooth business deals (Leung & Wong 2001).

As stated in contributions to knowledge, the practice of *guanxi* differs among Chinese societies. The importance of *guanxi* in northern China is not the same as it is in southern China. The northern part of China has a long tradition of *guanxi*. People from this area treasure *guanxi* relationships with business partners. They prefer to do business with insiders with whom they have established good *guanxi*. They do not switch to other suppliers even though other sources might provide better or more affordable materials because they treasure the camaraderie or friendship with their partners. They always give gifts to their business partners, or hold banquets for their partners. Close relationships with parties who have strong connections to the government or the industry are important. This connections facilitate business transactions or operations in China (Theingi, Purchase & Phungphol 2008; Wang 2007).

However, businessmen in southern China are more modern; they rely less on the practice of *guanxi*. They are more money-oriented, so they often conduct business with whoever provides materials with the lowest price, just like businessmen in Hong Kong do. Moreover, because of the legal regulations in the West, businessmen tend not to give much favour to their business partners. In order to avoid the appearance of conflicts of interest, giving and receiving gifts and benefits is not permitted in Western countries. In Hong Kong, the Independent Commission Against Corruption (ICAC) is charged with preventing corruption. Businessmen are careful in extending preferential treatment to their partners. Indeed, gift giving is only a way of returning favours; businessmen can return favours by placing more purchase orders with their partners. Therefore, two-way gift giving practice of *guanxi* is not apparent in Hong Kong. In brief, in encouraging social activities between firms, top management have to consider the culture of different firms and determine the activities that could build social ties (Stanko, Bonner & Calantone 2007). Businessmen have to understand the different practices of *guanxi* in Hong Kong and other places.

***Importance of managing an optimal supplier base.*** The final contribution to managerial practice is that although some large manufacturing companies prefer to maintain a smaller supplier base to ensure a stable material supply, both sizable companies and SMEs find it difficult to build a long-term relationship with a small number of suppliers. These smaller manufacturing firms must maintain a large diversity of suppliers with different capabilities, such as supplying fabric with different materials and with different functions, in order to satisfy customers' changing needs, and react to the fluctuating market environment. Thus, it is difficult for SMEs to use a small supplier base. Instead, they have to manage an optimal number of suppliers with different capabilities in order to allocate their resources more effectively (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005). Therefore, managers should be aware of the optimal supplier size for their companies in light of this specific business situation.

To conclude, practitioners should develop effective long-term networking relationships with suppliers, which include treasuring the *guanxi* developed with suppliers, trusting each other and continually making commitments to suppliers. Indeed, a *guanxi*-type mechanism relies on an investment of time to develop reputation and trust among individuals (Lovett, Simmons & Kali 1999; Luo 1997; Yang 1994). With the combined

effect of trust and reputation, an optimal supplier base can be developed, which could enhance efficiency. As a result, firms dedicate their efforts to an optimised supplier base (Christopher, Lowson & Peck 2004; Hoyt & Huq 2000; Monczka, Trent & Handfield 2005), and in turn, enjoy improved performance from these relationships (Bakos & Brynjolfsson 1998).

## **7.6 Limitations of this research and implications for further research**

This research provides new insights into the adoption of strategic networking; however, the survey findings should be viewed in light of certain limitations. The scope of this research was justified in Section 1.6 of Chapter 1. Some additional limitations are discussed next.

### **7.6.1 Limitations of this research**

The first limitation pertains to the research context as all data were collected from Hong Kong. As stated in Sub-section 7.5.2, Hong Kong has been doing business with Western firms for decades. Trading behaviour in Hong Kong may not be identical to what it is in other Chinese business communities. To understand Chinese strategic networks, data collection for future research should be carried out in places such as Taiwan, Singapore and other provinces in China in order to provide extra information about the role of *guanxi* (Lee & Humphreys 2007).

The second limitation relates to the research context as all data were collected from the clothing industry (Sub-section 5.5.1). Therefore, using the questionnaire item originated from research in other industries (e.g. Anderson & Weitz 1989; Heide 1994; Morgan & Hunt 1994; Stump & Heide 1996) may not be totally applicable to this industry. This led to a comprehensive modification of questionnaire items. Thus, the results were not fully consistent with the findings of other research.

The third limitation is linked to the research design. Senior managers were the key respondents and provided more reliable and valid data (Sin et al. 2003). However, information should be gathered from multiple sources. Design improvement from a methodological perspective could include the use of multiple respondents to improve the validity of organisation-level constructs, particularly if larger firms are involved

(Zaheer & Venkatraman 1995). Other improvement possibilities are to include other stakeholders within the buyer-supplier networks such as firms' customers, competitors and suppliers (Sin et al. 2003).

The final limitation of this research is the study's small sample size. The main survey sample was collected from the *Hong Kong Business Directory* (Apaclink 2004). Out of the 900 companies listed, 168 usable questionnaires (18.7 per cent) were returned. Although this is satisfactory because it was higher than the yields of business research carried out in England, Portugal and the United States (Bhatt 2000; Gomes, Yasin & Lisboa 2006; Harzing 1997; Valsamakis & Sprague 2001), future researchers should use a larger sample.

In brief, despite the limitations, this research suggests the improvement for future research and makes valuable contributions.

### **7.6.2 Implications for further research**

Having discussed the limitations of this research, this sub-section makes five suggestions for further research.

***Generalise findings to broader settings.*** First, in light of the limitations of the research context, further research is required to validate and generalise the findings. Future studies could apply similar research questions to sectors such as the automotive and electronic industries. In addition, a cross-cultural study could be conducted to identify cultural differences. Replication of this study to other cultures, such as the United States and in the European Union, and to other Chinese communities such as Taiwan and Singapore, merit further research.

***Collect data from both sides of a dyad.*** Second, related to the limitations of the research design, further studies should obtain information from both sides of the interfirm dyad. Future research may offer additional contributions by using a dyadic methodology (Lee & Humphreys 2007). This research focused only on individual interfirm relationships. However, scholars have suggested that greater attention should be paid to dyadic relationships in the network context. A theoretical framework of connections between relationships at different levels in a vertical supply chain network, such as yarn and

fabric suppliers, and distributors and retailers, can be developed (Wathne & Heide 2004).

Furthermore, having data from both sides of the dyad would also allow the modelling of different perceptions of the same phenomenon (Zaheer & Venkatraman 1995). This study only collected responses from the perspective of buying firms, because they were the one to make the decision to continue or terminate the networking relationships. The practitioners from buying firms may have different perceptions of a relationship than those of practitioners from supply firms (Kumar, Hibbard & Stern 1994).

This study of dyadic relationships can also enable cross-validation of inherently relationship-oriented constructs like commitment, trust, reputation and *guanxi*, and permit more valid measures of constructs which relate to another party. Furthermore, the relative importance of the specific assets (Williamson 1985) contributed by firms may align with the interests of the parties. This alignment of interests should be determined by looking at the assets contributed by both sides (Lee & Humphreys 2007; Young-Ybarra & Wiersema 1999). In turn, further research could be used to explain other relationships within the supply pipeline (as shown in Figure 1.1), such as the fabric supplier to yarn supplier relationship in the upstream or the retailer to manufacturer relationship in the downstream (Wathne & Heide (2004).

***Design longitudinal research.*** Third, future research can duplicate this study to provide longitudinal data for all constructs in the model. In other words, longitudinal research can be designed to investigate networking relationships at different phases of a relationship cycle: exploration, expansion, maintenance and termination (Batonda & Perry 2003b; Dwyer, Schurr & Oh 1987; Grönroos 1994; Jap & Ganesan 2000; Morgan & Hunt 1994; Selnes 1998). This design may produce different results regarding the effect of networking on these four phases.

Longitudinal research can also be designed to study the changes of business practices in Hong Kong. As more business transactions are done in China, the influence of Chinese culture may increase. At the same time, the Western influence on business practices may be reduced. Therefore, the application of theoretical arguments developed from this study may change in the future.

***Study influence of guanxi in Chinese societies.*** Fourth, *guanxi* is an essential ingredient of successful Chinese business activities (So & Walker 2006). Without *guanxi*, one simply cannot accomplish do business a Chinese society. Considering the significant role of *guanxi* in relationships within and between organisations in China (Lovett, Simmons & Kali 1999; Luo 1997; Millington, Eberhardt & Wilkinson 2006), more intensive investigation into the effects of *guanxi* on other business decisions, such as supplier developments, would provide useful insights for researchers and practitioners (Lee & Humphreys 2007). In addition, Hong Kong is greatly affected by Western culture in political organisation, education and the way of life. That may explain why no hypothesis related to *guanxi* was found to be significant. Thus, future studies could investigate whether and how the influence of *guanxi* is increasing in Hong Kong.

***Expand the theoretical framework by including more variables.*** The final direction for further research would be to expand the model to include other variables. This research shows that practitioners in the clothing industry use a theoretical framework for making strategic networking decisions. The constructs included in this research were found in the literature (Section 0 to 2.4.3) and in the results from the case research (Sub-section 3.4.2). Several research areas can be suggested to expand the final theoretical framework of this study. For example, the investigation of business performance in strategic networks could enrich the understanding of the impact of strategic networks. In essence, a manufacturer's performance depends on the performance of its trading partners, especially suppliers. Suppliers influence their performance in price, delivery, product quality and flexibility (Doney & Cannon 1997; Zaheer, McEvily & Perrone 1998). Therefore, business performance is worth studying in combination with the variables developed in this research.

This study can also be expanded and made more robust by considering the influence of the business environment in order to provide a stronger basis for the theoretical framework. The impact of environmental uncertainty or turbulence, which are unanticipated changes in circumstances surrounding business exchanges, can be covered in future research (Noordewier, John & Nevin 1990). Noordewier, John and Nevin (1990) assert that a manufacturer may enjoy a competitive advantage over its competitors if its suppliers can adapt to environmental changes. When the levels of

uncertainty are relatively high, the use of relational governance improves buyer purchasing performance. In contrast, the increase in relational governance has no effect on transaction performance when there are lower levels of uncertainty. Specifically, environmental turbulence can lead to market turbulence (the rate of change in the composition of customers and their preferences) or technological turbulence (the rate of technological change) (Lee & Cavusgil 2006). In addition, Lee and Cavusgil (2006) contend that relational-based governance in times of high environmental turbulence has a positive influence on strategic alliance performance. Therefore, further research needs to incorporate this potential moderator to understand whether a company's performance level varies in proportion to environmental uncertainty. In addition, top management must remain flexible in order to solve problems that arise from unforeseeable changes in technological or market competition (Lee & Cavusgil 2006).

Finally, other constructs such as opportunism, bounded rationality and behavioural uncertainty, which are related to TCA, should be included in further research. Opportunism and bounded rationality create difficulties with monitoring the contractual performance or compliance of exchange partners (Rindfleisch & Heide 1997). Behavioural uncertainty creates a problem with performance evaluation (Rindfleisch & Heide 1997). In other words, exchange specifications or a partner's compliance with expected outcomes cannot be easily and accurately verified *ex post* (Heide & John 1990). These create *ex post* monitoring costs when measuring output or behaviour. The additional constructs could be used refine our understanding of how they interact with transaction costs in strategic networks.

## **7.7 Chapter conclusion**

This chapter discussed the literature, the results of the case research and the survey findings. After the research problem was presented, the contributions to theoretical arguments and managerial practices were stated. The limitations of the research and suggestions for further research were described. In conclusion, this research makes an original contribution to the knowledge of antecedents of strategic networking, intensity of collaborative relationships and transaction costs, and provides a foundation for further research.

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# *Appendices*

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## Appendix 2.1: Representative scholarly literature

Author	Constructs											
	Year of publication	Trust	Commitment	Reputation	Communication	Cooperation	Risk management	<i>Guanxi</i>	Asset specificity	Relationship continuity	Size of supplier base	Transaction costs
Williamson	1975											✓
Williamson	1979											✓
Macneil	1981											✓
Williamson	1985	✓	✓	✓					✓			✓
Dwyer, Schurr & Oh	1987	✓	✓			✓						
Anderson & Weitz	1989	✓			✓							
Anderson & Narus	1990	✓			✓	✓						
Fombrun & Shanley	1990			✓								
Heide & John	1990					✓				✓		✓
Noordewier, John & Nevin	1990				✓							
Heide & John	1992				✓				✓			✓
Heide & Miner	1992				✓					✓		
Moorman, Zaltman & Deshpande	1992	✓	✓									
Ring & Van de Ven	1992	✓										
Anderson, Hakansson & Johnason	1994		✓			✓						
Bian	1994							✓				
De Mente	1994							✓		✓		
Hedie	1994								✓	✓		✓
Morgan and Hunt	1994	✓	✓		✓	✓						
Björkman & Kock	1995	✓	✓		✓			✓				
Davies et al.	1995			✓	✓			✓				
Gundlach, Achrol & Mentzer	1995		✓						✓			✓
Heide & Stump	1995								✓	✓		✓
Kumar, Scheer & Steenkamp	1995a	✓	✓							✓		
Kumar, Scheer & Steenkamp	1995b	✓	✓							✓		
Wilson	1995	✓	✓			✓			✓	✓		
Zaheer & Venkatraman	1995	✓							✓			✓

## Appendix 2.1 (Cont)

Author	Constructs											
	Year of publication	Trust	Commitment	Reputation	Communication	Cooperation	Risk management	<i>Guanxi</i>	Asset specificity	Relationship continuity	Size of supplier base	Transaction costs
Dyer	1996b	✓		✓								
Man & Cheng	1996							✓				
Bian	1997							✓		✓		
Dollinger, Golden & Saxton	1997			✓								
Doney & Cannon	1997	✓										
Dyer	1997	✓		✓	✓							✓
Fontenot & Wilson	1997	✓	✓	✓	✓	✓						
Luo	1997		✓					✓		✓		
Van Alstyne	1997	✓			✓	✓	✓		✓			✓
Buttery & Leung	1998	✓						✓		✓		
Duncan & Moriarty	1998			✓						✓		
Monczka et al.	1998	✓	✓		✓				✓			
Selnes	1998	✓	✓		✓							
Tsang	1998							✓	✓			
Zaheer, McEvily & Perrone	1998	✓										
Lovett, Simmons & Kali	1999	✓						✓		✓		✓
Young-Ybarra & Wiersema	1999	✓	✓		✓				✓			✓
Gulati, Nohria & Zaheer	2000				✓							
Hoyt & Huq	2000									✓	✓	
Jap & Ganesan	2000		✓									
Summer	2000						✓					
Wathne & Heide	2000								✓			✓
Zheng	2000							✓				
Barratt & Oliverira	2001					✓						
Chang & Harwood	2001	✓	✓									✓
Lee, Pae & Wong	2001	✓						✓		✓		
Leung & Wong	2001	✓						✓		✓		

## Appendix 2.1 (Cont)

Author	Constructs											
	Year of publication	Trust	Commitment	Reputation	Communication	Cooperation	Risk management	<i>Guanxi</i>	Asset specificity	Relationship continuity	Size of supplier base	Transaction costs
Fynes & Voss	2002		✓									
Lin, Huang & Lin	2002				✓							
Perry, Cavaye & Coote	2002		✓									
Skarmas, Katsikeas & Schlegelmilch	2002		✓									
Carson et al.	2003					✓				✓		
Dyer & Chu	2003	✓			✓							✓
Harland, Brenchley & Walker	2003						✓					
Jonsson & Zineldin	2003	✓	✓	✓	✓	✓						
McEvily, Perrone & Zaheer	2003	✓										
Chen & Paulraj	2004	✓	✓	✓	✓					✓	✓	✓
Chow & Ng	2004							✓				
Christopher, Lowson & Peck	2004									✓	✓	
Wathne & Heide	2004								✓			✓
Bowling & rieger	2005						✓					
Lai, Cheng & yeung	2005								✓			
Lau et al.	2005	✓	✓	✓	✓	✓				✓		✓
Lee & Dawes	2005	✓						✓				
Monczka, Trent & Handfield	2005		✓								✓	
Shaw	2005						✓					
Beasley et al.	2006						✓					
Millington, Eberhardt & Wilkinson	2006							✓		✓		
Obuchowski	2006						✓					
So & Walker	2006							✓				✓

## Appendix 2.1 (Cont)

Author	Constructs											
	Year of publication	Trust	Commitment	Reputation	Communication	Cooperation	Risk management	<i>Guanxi</i>	Asset specificity	Relationship continuity	Size of supplier base	Transaction costs
Abrams et al.	2007						✓					
Beasley, Frigo & Litman	2007						✓					
Denize & Young	2007	✓			✓							
Lai, Bao & Li	2007	✓	✓							✓		
Lee & Humphreys	2007							✓				
Nelson & ambrosini	2007						✓					
Stanko, Bonner & Calantone	2007		✓		✓							
Wang	2007							✓				
Hansen, Samuelsen & Silseth	2008			✓								
Lado, Dant & Tekleab	2008											✓
Tian, Lai & Daniel	2008	✓	✓	✓	✓				✓			

### Appendix 3.1: Letter to case research participants



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

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#### Re: A Study on Manufacturer-Supplier Partnership in the Hong Kong Clothing Industry

Dear (participant's name),

I am May Lau, a PhD research student from The Hong Kong Polytechnic University, Institute of Textiles and Clothing. I am conducting a research project on the current situation of managing manufacturer-supplier partnership in the Hong Kong clothing manufacturing industry. My target participants are those **clothing manufacturing companies**. Given your interest in clothing manufacturing, I would be grateful if I can have an interview with you to share your opinion on this issue. Your support will substantially contribute to the present knowledge. Your responses will be kept **strictly confidential** and make no use of any commercial purpose.

You may **benefit** from this study as we will send you a report on the survey findings, which could help you:

1. identify the factors of a successful manufacturer-supplier partnership,
2. improve the relationship with suppliers, and
3. improve efficiency in operation.

I would appreciate an opportunity to make an **interview appointment** with you. It will take about 15 to 30 minutes. Please suggest your preferred date and time for the interview. If you have any queries about my research, please call me with the above phone number. I look forward to hearing from you.

Yours sincerely,  
May Lau

PhD student  
Institute of Textiles and Clothing  
The Hong Kong Polytechnic University

Email: meimei.lau@  
Phone: 9639- / 2766-

## Appendix 3.2: Case research interview guide



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

### Introduction

Thank you for taking the time to participate in this research.

### Purpose of this research

The purpose of this research is to investigate the current situation of strategic networking in the Hong Kong clothing manufacturing industry. The networking in this context refers to the collaboration of manufacturers and their fabric suppliers, in which long-term arrangements bearing clear objectives are set up across various business functions. Finally, companies work together to develop and improve transactional performance.

### Ethical considerations

All the data collected in this interview is confidential and anonymous. For the safety and benefit of your company and yourself, I will disguise your company's and your name in the final research report in order to achieve anonymity, along with any other identifying details. Could I please tape record this interview as it will help me analyse the data? Please feel free to stop the tape recording at any time during the interview. Indeed, you can terminate your involvement in this project at any time. Do you have any questions regarding the objectives or procedures of the interview?

This protocol is not a questionnaire but provides a framework for the interview.

Date: \_\_\_\_\_ Time commenced: \_\_\_\_\_

Interviewee's name: \_\_\_\_\_

Company's name: \_\_\_\_\_

Current position: \_\_\_\_\_ Job function: \_\_\_\_\_

Working years in this company: \_\_\_\_\_ years

Average annual sales turnover (in HK\$ million): \_\_\_\_\_

## Interview questions:

### 1) Nature of business (you can choose more than one option):

- ☐ <sub>1</sub> Clothing manufacturing      ☐ <sub>2</sub> Buying      ☐ <sub>3</sub> Trading      ☐ <sub>4</sub> Retail  
☐ <sub>5</sub> Others (please specify: \_\_\_\_\_)

### 2) In what **year** was your company founded? \_\_\_\_\_ year

### 3) Company category:

- ☐ <sub>1</sub> Fully Hong Kong owned      ☐ <sub>2</sub> Fully China owned      ☐ <sub>3</sub> Fully overseas owned  
☐ <sub>4</sub> Joint venture (Please specify: \_\_\_\_\_)

### 4) Major product categories (you can choose more than one option in the a, b, c items)

a.	<input type="checkbox"/> Woven garments	<input type="checkbox"/> Knitted garments	<input type="checkbox"/> Fur/leather
b.	<input type="checkbox"/> Ladies' wear	<input type="checkbox"/> Men's wear	<input type="checkbox"/> Children's clothes
	<input type="checkbox"/> Babies' clothes		
c.	<input type="checkbox"/> Outer garments	<input type="checkbox"/> Shirts	<input type="checkbox"/> Jeans
	<input type="checkbox"/> T-shirts	<input type="checkbox"/> Dresses	<input type="checkbox"/> Suits
	<input type="checkbox"/> Uniforms	<input type="checkbox"/> Sweater	<input type="checkbox"/> Intimate
	<input type="checkbox"/> Evening wear	<input type="checkbox"/> Other (please specify : _____)	

### 5) Major markets for products (you can choose more than one option)

<input type="checkbox"/> <sub>a</sub> Western (US, UK, EU, etc.) markets (share: _____% of <b>total</b> sales)	<input type="checkbox"/> <sub>b</sub> China, Japan and/or Asian markets (share: _____% of <b>total</b> sales)
<input type="checkbox"/> <sub>c</sub> Local (Hong Kong) market (share: _____% of <b>total</b> sales)	<input type="checkbox"/> <sub>d</sub> Others (please specify: _____) (share: _____% of <b>total</b> sales)

### 6) How many **employees** are there in your company?

- a. In Hong Kong      Office staff: \_\_\_\_\_      Workers: \_\_\_\_\_  
 b. Outside Hong Kong (including China)      Office staff: \_\_\_\_\_      Workers: \_\_\_\_\_

I wish to thank you for participating in this research. Please be assured that your information given in this research will not be disclosed to public. All participants will be disguised in the report. Your participation in this research is voluntary and you may quit at any time.

7) Would you please tell me your story of developing and managing network relationships with your major suppliers?

8) How do you define *strategic networks*?

Why do you define it in this way?

9) What is your strategic network plan for the next three years?

☐ No change

☐ Expansion

☐ Contraction

☐ Withdrawal

10) How long has your company been doing business with your major suppliers?

\_\_\_\_\_ Years

11) What factors do you think are necessary for the success of strategic network?

Please comment the factors on the relationship between your company and major supplier.



- 12) How does your company evaluate your suggested success factors of strategic network (with 1=Extremely Unimportant, and 5=Extremely Important)?
- 13) Please comment the *guanxi* relationship between your company and major suppliers.
- 14) Please comment the *transaction-specific investments* between your company and major suppliers.

For example,

(a) site specific investments

(b) physical specific investments

(c) human specific investments

- 15) Please comment the willingness of *continuing networking relationships* with major suppliers.
- 16) Please comment the *size of fabric supplier base* of your company.

- 17) Please comment the *transaction costs* involved when your company dealing with major suppliers.

For example,

- (a) search costs for new supplier
- (b) bargaining and contracting costs with major suppliers
- (c) monitoring costs of major suppliers
- (d) enforcement costs of major suppliers

- 18) Do you have any questions on this interview?

**Thank you for your support and participation!**

## Appendix 5.1: Letter to survey participants (Chinese version)



THE HONG KONG  
POLYTECHNIC UNIVERSITY

香港理工大學

紡織及製衣學系

Institute of Textiles & Clothing

May Lau

手提電話: 9639-

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導師: 蒙嘉亮博士, 助理教授

### 問卷調查: 香港成衣製造商與布料供應商之間的夥伴關係

(參與者名稱) 你好,

本人是香港理工大學, 紡織及製衣學系的博士研究生。我們正進行一項關於現時香港成衣製造商與布料供應商之間的夥伴關係的研究。我們主要的研究對象為成衣製造業的管理人員。得知閣下對成衣製造有深入的認識, 我們對閣下的見解深感興趣, 所以非常希望閣下參與是次研究, 請閣下回答問卷上的所有問題。閣下的支持將對業界有莫大的貢獻。

閣下所提供的所有資料, 將會**絕對保密**, 而且會以匿名者的形式處理。我們非常感謝閣下的參與。為方便閣下, 已附上回郵信封。

#### 參與此研究的益處

我們將會把調查報告寄給有意獲知研究結果的參與者。此報告將有助參與者:

- 找出成衣製造商與供應商夥伴關係的成功因素
- 改善與布料供應商的關係
- 改善運作效率

最後, 多謝閣下於百忙中抽空完成此問卷。希望是次研究能協助貴公司更有效地與供應商合作, 從而提高競爭優勢。

如果閣下對本研究有任何疑問或想提出對問卷的任何意見, 請以上面的電話或地址聯絡本人。

May Lau

香港理工大學

紡織及製衣學系

## Appendix 5.2: Letter to survey participants (English version)



THE HONG KONG  
POLYTECHNIC UNIVERSITY

香港理工大學

紡織及製衣學系

Institute of Textiles & Clothing

**May Lau**

Mobile: 9639-

Office: 2766-

Fax: 2773-1432

Email: meimei.lau@

Supervisor: Dr. Moon Ka Leung

Assistant Professor

### Re: A PhD Study on Manufacturer-Supplier Partnership in the Hong Kong Clothing Industry

Dear (participant's name)

I am a PhD candidate from The Hong Kong Polytechnic University, Institute of Textiles and Clothing. We are conducting a research on the current situation of manufacturer-supplier partnership management in the Hong Kong clothing manufacturing industry. Our target participants are people from management level in **clothing manufacturing firms**. Given your knowledge in clothing manufacturing, we are interested in your opinions and views. We would very much like you to participate in the study and would encourage you to answer all the questions on the enclosed questionnaire. Your support will substantially contribute to the industry.

Your responses will be kept **strictly confidential** and you will not be identified in any way. We would be very grateful if you could complete and return the questionnaire. An addressed envelop has been included for your convenience.

You may **benefit** from this study as we will send you a report on the survey findings, which could help you:

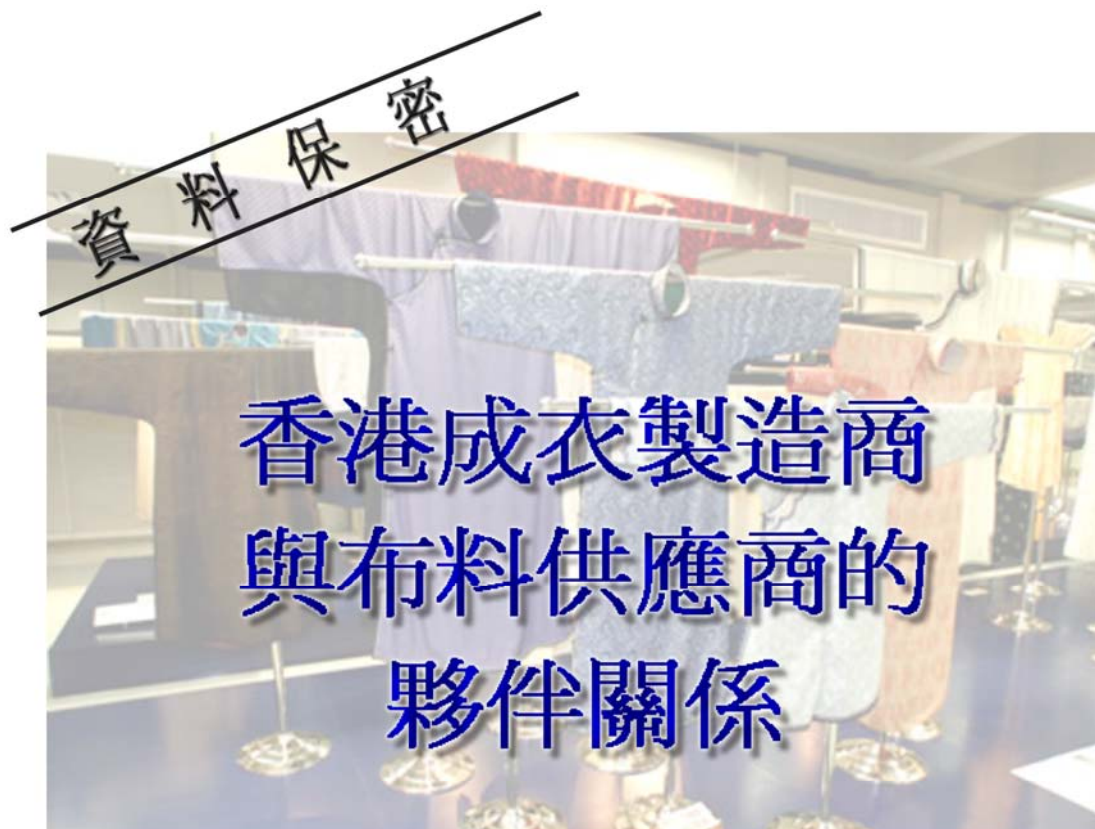
- identify the factors of a successful manufacturer-supplier partnership,
- improve the relationship with fabric suppliers, and
- improve efficiency in operation.

Finally, we would like to sincerely thank you for taking the time to complete the questionnaire. It is hoped that the results of the study will help you to work with your suppliers more effectively and improve the competitive advantages of your firm.

If you have any queries about my research, or any specific issue you would like to raise regarding the questionnaire, please do not hesitate to contact me with the above phone number or address.

Yours sincerely,

May Lau  
Institute of Textiles and Clothing  
The Hong Kong Polytechnic University



# 問卷調查 2006



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

Institute of Textiles and Clothing  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon  
Tel: 2766-6506  
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## 香港成衣製造商與布料供應商的夥伴關係 Partnership of Clothing Manufacturer and Fabric Supplier in the Hong Kong Clothing Industry

### 關於此研究

本問卷的目的是探討現時香港成衣製造商與布料供應商之間夥伴關係的情況。

### 參與此問卷的益處

我們將會把調查報告寄給有意獲知研究結果的參與者。此報告將有助參與者：

- 找出製造商與供應商夥伴關係的成功因素
- 改善與布料供應商的關係
- 改善供應鏈的運作效率

### 指引

1. 我們會謹慎地分析此問卷，所有收集得到的結果將會以平均數的方式表達出來，所以個人的觀點及見解會以匿名者的形式處理的。閣下所提供的資料，將會**絕對保密**，並不會作任何其他商業上的用途。
2. 閣下的參與是完全屬於**自願性質**，閣下可以於任何時間終止回答此問卷。我們要求閣下提供的資料絕對不會使閣下承擔任何個人責貸的風險。
3. 請在每條問題旁的空格(□)內填上“✓”作答，圈出適當的選擇，或在預留的空位內提供適當的資料。由於本問卷以匿名形式收集資料，請閣下隨意發表個人見解，務求令此調查得到成功。
4. 請於2007年1月31日前完成問卷，並用**附上的信封**寄回 九龍紅磡，香港理工大學，紡織及製衣學系，劉小姐 (May) 收。
5. 如果閣下日後想收到此研究的結果，請提供閣下的**咭片**，或在問卷的尾頁填上閣下的姓名及電郵資料。請注意，本研究是經過審慎的監督，絕對無意圖去揭露填卷人的身份。

### 製造商與供應商的夥伴關係之定義

夥伴關係牽涉到製造商和供應商共同對商業運作上作出長期的及有目的的安排，一個成功的貿易夥伴，是需要靠彼此的承擔，信任，信譽，和人際關係。本研究的重點在於商業夥伴共同發展及改善交易表現。

請根據以上的特性，選出一位貴公司認為**最重要的布料供應商**，並以此供應商作答問題六及以後的問題。

如果閣下有任何疑問，請聯絡：

May Lau  
香港理工大學，紡織及製衣學系  
電郵: [meimei.lau@polyu.edu.hk](mailto:meimei.lau@polyu.edu.hk)  
電話: 9639 / 2766  
傳真: 2773 1432

我們非常感謝閣下的參與。

## 一般資料 (General Information)

1. 貴公司業務性質 (可選擇多過一項):

☐<sub>1</sub> 成衣製造      ☐<sub>2</sub> 成衣採購      ☐<sub>3</sub> 中介貿易      ☐<sub>4</sub> 零售      ☐<sub>5</sub> 其他(請註明: \_\_\_\_\_)

2. 貴公司於何年成立? \_\_\_\_\_

3. 現時貴公司共有多少個布料供應商? \_\_\_\_\_ 個

4. 多少個是貴公司的**主要**布料供應商? \_\_\_\_\_ 個

(註: 主要布料供應商指供應超過貴公司的總布料用量 15%的公司)

5. 貴公司的**主要**布料供應商的數量:

a) 在過去的三年:      ☐<sub>1</sub> 未變      ☐<sub>2</sub> 增加      ☐<sub>3</sub> 減少

b) 在未來三年將:      ☐<sub>1</sub> 不變      ☐<sub>2</sub> 增加      ☐<sub>3</sub> 減少

## 第一部份: 與最主要的布料供應商的關係 (Relationship with the Top Key Fabric Supplier)

請根據製造商和供應商夥伴關係的特性, 如彼此的承擔、信任、信譽和人際關係, 選出一個你認為是貴公司**最重要的布料供應商**。在以下所有問題, 該供應商以“甲供應商”為名。

6. 甲供應商佔貴公司所有布料購買額的百分比是: \_\_\_\_\_ %

7. 甲供應商與貴公司生意往來多少年? \_\_\_\_\_ 年

8. 以閣下觀點, 甲供應商在布料供應行業中的規模是:

☐<sub>1</sub> 很小      ☐<sub>2</sub> 小      ☐<sub>3</sub> 中等      ☐<sub>4</sub> 大      ☐<sub>5</sub> 很大

9. 甲供應商的公司種類:

☐<sub>1</sub> 港資公司      ☐<sub>2</sub> 中資公司      ☐<sub>3</sub> 外資公司      ☐<sub>4</sub> 合資公司 (請註明: \_\_\_\_\_)

請在以下問題編號第 10 至 16 的句子旁圈出最能代表你對各句子的同意程度。

非常不同意	不同意	無意見	同意	非常同意
1	2	3	4	5

#### 10. 生意關係的延續 (Relationship Continuity)

	非常 不同意	1	2	3	4	5	非常 同意
a) 我們期望與甲供應商在日後的季度能夠攜手合作。 (work together on future seasons)		1	2	3	4	5	
b) 我們期望與甲供應商建立長遠的發展目標。 (long-term development goals)		1	2	3	4	5	
c) 我們與甲供應商的合作是完全開放的。 (註: 完全開放乃指無止境的合作關係, 而且此關係會不段 延續下去)		1	2	3	4	5	
d) 我們期望與甲供應商發展成終身的合作夥伴。(life-long partner)		1	2	3	4	5	

#### 11. 交易成本 (Transaction Costs)

	非常 不同意	1	2	3	4	5	非常 同意
a) 搜尋與挑選適當的供應商以代替甲供應商的時間很長和 成本很高(例如需考慮技術水平、生產能力、財政實力、數期、 及價格競爭力)。		1	2	3	4	5	
b) 與甲供應商在合同條款上(如價格、起點量、及目標交貨期) 討價還價的時間很長和成本很高。(bargain on contract terms)		1	2	3	4	5	
c) 為保證甲供應商遵從原定協議, 監察其表現的時間很長和 成本很高 (例如派人到廠房視察、檢查庫存清單、確保布料質 量、監察交貨日程表)。		1	2	3	4	5	
d) 與甲供應商解決分歧的時間很長和成本很高 (例如當甲供 應商的布料成本增加時, 洽談如何去分擔此成本涉及的時間)。		1	2	3	4	5	



## 雙方的特定投資 (Dedicated Investment)

### 12. 假如甲供應商與我們的採購協議終止了，

(sourcing agreement is cancelled)

	非常 不同意				非常 同意	
a) 我們需要大量的投資來搜尋另一個新的供應商。	1	2	3	4	5	
b) 我們這一季的生產及交貨安排將受到阻延。	1	2	3	4	5	
c) 我們很難找到另一家供應商能提供我們本季某些指定產品所需的布料。	1	2	3	4	5	
d) 我們會花很多時間及精力去重新調配現時與甲供應商合作的員工。	1	2	3	4	5	
e) 我們只得放棄很多與甲供應商建立關係的經驗或知識。	1	2	3	4	5	

## 第二部份：與供應商建立合作夥伴先要條件 (Antecedents of Developing Partnership)

### 13. 我們對甲供應商的承擔 (Our Commitment to Supplier)

	非常 不同意				非常 同意	
a) 我們會為遷就甲供應商的能力在運作上作出調整。	1	2	3	4	5	
b) 我們制定布料要求，以迎合甲供應商的生產能力。	1	2	3	4	5	
c) 我們會彈性處理甲供應商無法達到布料規格的問題。	1	2	3	4	5	
d) 當甲供應商需要更改交貨期，我們會彈性處理我們的生產進度。	1	2	3	4	5	

### 14. 我們對甲供應商的信任 (Our Trust in Supplier)

	非常 不同意				非常 同意	
a) 我們會信守對甲供應商作出的承諾。	1	2	3	4	5	
b) 我們會誠實對待甲供應商。	1	2	3	4	5	
c) 我們會提供可信的資料給甲供應商。	1	2	3	4	5	
d) 我們在甲供應商的心目中是值得信賴的。	1	2	3	4	5	
e) 當我們與甲供應商合作時，我們需要份外小心 (以確保甲供應商提供優質的布料，並確保甲供應商不會洩漏公司的商業資料，或作出任何有損公司利益的行徑)。	1	2	3	4	5	

15. 我們的信譽 (Our Reputation)	非常 不同意				非常 同意
a) 我們關心社會及關注環境問題。	1	2	3	4	5
b) 我們從不間斷地給投資者優厚回報，證明本公司擁有長期投資價值。	1	2	3	4	5
c) 我們擁有高效率地運用公司資源的信譽。	1	2	3	4	5
d) 我們認為我們在現時及潛在的客戶心目中，是其中一家最有吸引力的成衣供應商。	1	2	3	4	5
e) 我們能吸引最合資格的布料供應商作業務往來。	1	2	3	4	5
f) 我們擁有影響本地成衣工業發展的能力。	1	2	3	4	5

#### 16. 我們與甲供應商的人際關係 (Our Guanxi with Supplier A)

(註:「人際關係」指人與人之間的聯繫及社會關係網，可用予謀求方便。)

	非常 不同意				非常 同意
a) 我們經常送贈禮物給甲供應商和款待他們飲宴。 (例如在中秋節送贈月餅或生果，新年款待他們吃團年飯等)	1	2	3	4	5
b) 我們常本着「以和為貴」的原則與甲供應商合作辦事。 (註:「以和為貴」指大家和睦相處。當與別人發生矛盾時，以忍耐和息事寧人的態度去化解，正所謂「退一步海闊天空」)	1	2	3	4	5
c) 不管得到多少好處，我們願意給予甲供應商相等的回報。 (俗語:「禮尚往來」、「滴水之恩，湧泉相報」)	1	2	3	4	5
d) 甲供應商今天給予我們的「關照」，我們日後一定想辦法回報。 (註:「關照」指互相配合照應)	1	2	3	4	5
e) 我們認為給予甲供應商方便等同給予自己方便。 (註:「方便」指給予便利或幫助，俗語所謂「與人方便，與己方便」)	1	2	3	4	5
f) 在商務交往時，我們常給予甲供應商「面子」。 (註:「面子」指情份和體面光榮。商務交往時要講面子，如果在眾人面前被人否定或拒絕，會很丟臉和感覺「下不了臺」。)	1	2	3	4	5
g) 我們看重與甲供應商建立的「義氣」關係。 (註:「義氣」指為情誼而甘願替別人承擔風險或作自我犧牲的氣度)	1	2	3	4	5

### 第三部份：公司資料 (Company Profile)

17. 產品的主要市場 (可選擇超過一項)

<input type="checkbox"/> 歐美市場(美國, 英國, 歐洲等) (佔總銷量的百分比: _____%)	<input type="checkbox"/> 中國, 日本或亞洲市場 (佔總銷量的百分比: _____%)
<input type="checkbox"/> 本地(香港)市場 (佔總銷量的百分比: _____%)	<input type="checkbox"/> 其他 (請註明: _____) (佔總銷量的百分比: _____%)

18. 公司種類:

☐ 港資公司    ☐ 中資公司    ☐ 外資公司    ☐ 合資公司 (請註明: \_\_\_\_\_)

19. 貴公司有多少個員工?

a. 在港僱員                      辦公室職員: \_\_\_\_\_                      工廠員工: \_\_\_\_\_  
b. 外地僱員(包括內地)    辦公室職員: \_\_\_\_\_                      工廠員工: \_\_\_\_\_

20. 貴公司於過去三年內的年均營業額(港元)為多少? (average annual sales turnover-HK dollar)

☐ 低於一千萬                      ☐ 一千萬至五千萬                      ☐ 五千一百萬至一億  
☐ 一億一百萬至十億                      ☐ 十億一百萬至五十億                      ☐ 五十億一百萬至一百億  
☐ 超過一百億

### 第四部份：填卷人資料 (Respondent Information)

21. 閣下在貴公司擔任什麼職位?

☐ 老板/僱主                                      ☐ 總裁/行政董事  
☐ 總經理    ☐ 部門經理 (部門: \_\_\_\_\_)  
☐ 高級採購員                                      ☐ 其他(請註明: \_\_\_\_\_)

22. 閣下在貴公司已服務了多少年? \_\_\_\_\_年

請在下面空白位填寫閣下對本問卷或研究課題的意見

如果閣下日後想收到此研究結果，請填上閣下的聯絡資料，或提供閣下名片。

公司名稱 (可隨意作答): \_\_\_\_\_

姓名: \_\_\_\_\_ 電郵: \_\_\_\_\_ @ \_\_\_\_\_

☞ 問卷完畢，謝謝您的支持及參與! ☜

我們非常感謝閣下的參與  
請用附上的回郵信封寄回以下地址:

Ms May Lau  
九龍紅磡  
香港理工大學  
紡織及製衣學系

**CONFIDENTIAL**



## **Partnership of Garment Manufacturer and Fabric Supplier in the Hong Kong Clothing Industry**

# **Questionnaire Survey**

# **2006**



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

Institute of Textiles and Clothing  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon  
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## Partnership of Clothing Manufacturer and Fabric Supplier in the Hong Kong Clothing Industry

### About This Survey

The purpose of this survey is to investigate the current situation of managing manufacturer-supplier partnership of the clothing manufacturing industry in Hong Kong.

### Benefits of Your Participation

A report on the survey findings will be sent to participants on request. This report will help you:

- identify the factors of a successful manufacturer-supplier partnership,
- improve the relationship management with fabric suppliers, and
- improve the efficiency of supply chain operations.

### General Directions

All questionnaires returned will be carefully analyzed and data compiled. Observations and findings generated from this study will be reported in form of aggregated means, ensuring individual respondent's views and opinions are treated anonymously. All data collected will be kept **strictly confidential** and refrained from use for any commercial purpose.

Your participation is **completely voluntary** and you can withdraw at any time. We only collect relevant information and would not seek anything that could possibly place you at risk of any undesirable burden.

Please specify your answer for each question by either putting a "✓" in the chosen box (□), circling the most suitable choice, or filling data in the given space. In light of its anonymous nature, do feel free to express **your** views and help us make the survey a success.

Please complete and return this questionnaire before 31 January 2007 using the **enclosed envelope** to Ms May Lau, Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong.

You are most welcome to request for a copy of the report on the survey findings by simply enclosing your **business card** with or fill in your name and email address on the last page of this questionnaire. You can be assured the study is prudently monitored and there is no intention to reveal the identity of any respondent.

### Definition of Manufacturer-Supplier Partnership

The partnership in this context refers to the collaboration of manufacturers and their fabric suppliers to the extent that long-term arrangements bearing clear objectives are set up across various business functions. Such a partnership builds on the elements of commitment, trust, reputation and *guanxi*; in which, companies work together to develop and improve transactional performance.

Please identify **the most important fabric supplier** of yours based on the elements above. Keep this firm in mind and refer to it as you answer from Question 6 till the end of this questionnaire.

**If you need help with any of the questions, please contact:**

Ms May Lau  
The Hong Kong Polytechnic University  
Institute of Textiles and Clothing  
Email: [meimei.lau@](mailto:meimei.lau@polyu.edu.hk)  
Tel: 9639- / 2766- Fax: 2773-1432

**We sincerely appreciate your participation.**

## General Information

1. **Nature of business** (you can choose more than one option):  

☐ <sub>1</sub> Clothing manufacturing

☐ <sub>2</sub> Buying

☐ <sub>3</sub> Trading

☐ <sub>4</sub> Retail

☐ <sub>5</sub> Others (please specify: \_\_\_\_\_)
2. In what **year** was your company founded? \_\_\_\_\_ year
3. In current, how many **fabric suppliers** is your company dealing with?  
\_\_\_\_\_
4. How many of these are your **key fabric suppliers**? \_\_\_\_\_  
(Note: key fabric suppliers are those supplying more than 15% of your total fabrics needs.)
5. The number of your **key fabric suppliers**:  

a) over the past 3 years :

☐ <sub>1</sub> No change

☐ <sub>2</sub> Increased

☐ <sub>3</sub> Decreased

b) for the next 3 years :

☐ <sub>1</sub> No change

☐ <sub>2</sub> To Increase

☐ <sub>3</sub> To Decrease

## Part A: Relationship with the Top Key Fabric Supplier

Please identify one **top key fabric supplier** in your firm based on the partnership attributes of commitment, trust, reputation and *guanxi*. This supplier is named as “**Supplier A**” for the questions to follow.

6. What percentage of your total fabric purchase goes to Supplier A? \_\_\_\_\_ %
7. How long has your company been doing business with Supplier A? \_\_\_\_\_  
year(s)
8. In your view, how big is Supplier A in the fabric-supply industry?  

☐ <sub>1</sub> Very small

☐ <sub>2</sub> Small

☐ <sub>3</sub> Medium

☐ <sub>4</sub> Big

☐ <sub>5</sub> Very big
9. **Company category of Supplier A:**  

☐ <sub>1</sub> Fully Hong Kong owned

☐ <sub>2</sub> Fully China owned

☐ <sub>3</sub> Fully overseas owned

☐ <sub>4</sub> Joint venture (Please specify: \_\_\_\_\_)

Please evaluate the following statements from Question 10 to 16 and circle the best answer representing your agreement with each statement.

Strong Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

10. **Relationship Continuity**

	Strongly Disagree				Strongly Agree
a) We expect to work together on future seasons with Supplier A.	1	2	3	4	5
b) We expect to establish long-term development goals with Supplier A.	1	2	3	4	5
c) Our involvement with Supplier A is open-ended <sup>**</sup> . ( <sup>**</sup> open-ended means long-lasting partnership and this relationship will be continued)	1	2	3	4	5
d) We expect Supplier A to grow into our life-long partner.	1	2	3	4	5

11. **Transaction Costs**

	Strongly Disagree				Strongly Agree
a) It is very timely and costly to search and select suitable suppliers to replace Supplier A (e.g. considering technical competence, manufacturing capability, financial strength, credit terms, price competitiveness).	1	2	3	4	5
b) It is very timely and costly to negotiate contract terms such as price, minimum quantity and target delivery date with Supplier A.	1	2	3	4	5
c) It is very timely and costly to monitor the performance of Supplier A, to ensure they reach the original agreement (e.g. conducting on-site inspection, checking inventory levels, ensuring fabric quality, and monitoring delivery schedules).	1	2	3	4	5
d) It is very timely and costly to resolve disputes with Supplier A (e.g. time involved in negotiating cost split when Supplier A's fabric cost increases).	1	2	3	4	5



## Dedicated Investment

12. If our sourcing agreement with Supplier A is cancelled,	Strongly Disagree			Strongly Agree		
a) we would need substantial investments to search for another new supplier.	1	2	3	4	5	
b) our production and delivery schedule in the season will be interrupted.	1	2	3	4	5	
c) it would be difficult to find another supplier to provide the same fabric for our particular garments in the season.	1	2	3	4	5	
d) we would need to invest a lot of time and effort redeploying our staff who are presently working with Supplier A.	1	2	3	4	5	
e) we would have to forsake a lot of working experience or knowledge tailored to the relationship with Supplier A.	1	2	3	4	5	

## Part B: Antecedents of Developing Partnership

13. Our Commitment to Supplier A	Strongly Disagree			Strongly Agree		
a) We make operation adjustments to cope with Supplier A's competence.	1	2	3	4	5	
b) We tailor our fabric requirement to suit Supplier A's production capability.	1	2	3	4	5	
c) We are flexible when Supplier A cannot meet our fabric specifications.	1	2	3	4	5	
d) We are flexible in our production schedule when Supplier A's delivery arrangement is changed.	1	2	3	4	5	

14. Our Trust in Supplier A	Strongly Disagree			Strongly Agree		
a) We keep promises we made to Supplier A.	1	2	3	4	5	
b) We are always honest with Supplier A.	1	2	3	4	5	
c) We provide reliable information to Supplier A.	1	2	3	4	5	
d) We are trustworthy to Supplier A.	1	2	3	4	5	
e) We need to be cautious when working with Supplier A (to ensure Supplier A provides good quality fabrics, to prevent Supplier A exposing our commercial information, or doing anything harmful to our business).	1	2	3	4	5	

## 15. Our Reputation

		Strongly Disagree			Strongly Agree	
a)	We show concern for our community and are known as responsive to environmental issues.	1	2	3	4	5
b)	We consistently provide investor(s) with excellent returns and prove a valuable long-term investment.	1	2	3	4	5
c)	We have reputation for efficient and effective use of corporate resources.	1	2	3	4	5
d)	We regarded us as one of the most appealing clothing suppliers to our present and potential customers.	1	2	3	4	5
e)	We can attract the most competent fabric suppliers for business.	1	2	3	4	5
f)	We have the capability to influence the development of the local clothing industry.	1	2	3	4	5

## 16. Our Guanxi with Supplier A

(Note: *Guanxi* means personal connections or involvement and social relationships that can facilitate securing favours.)

		Strongly Disagree			Strongly Agree	
a)	We frequently give presents to Supplier A and invite them for dinners. (e.g. giving moon cakes or fruits in Mid-Autumn Festival, invite them to have dinners in Lunar New Year)	1	2	3	4	5
b)	We emphasize the principles of harmony when working with Supplier A. ( <i>harmony</i> indicates that people live in peace, are courteous and friendly to one another. They go with what people feel or desire and compromise to let everybody have peace so that they could settle disputes amicably)	1	2	3	4	5
c)	No matter the favour obtained, we will reciprocate with same amount of favour to Supplier A. (when gifts or favours are received, there must be something in return, i.e. “etiquette requires reciprocity”)	1	2	3	4	5
d)	We must try returning favours to Supplier A in the future if they help us this time. ( <i>help</i> has the meaning of taking care of somebody)	1	2	3	4	5
e)	Providing convenience for Supplier A also means furnishing the same to ourselves. ( <i>provide convenience</i> means giving help to others, or giving special consideration to others, in order to facilitate or open special avenue for doing things)	1	2	3	4	5
f)	We emphasize the provision of face ( <i>mianzi</i> ) to Supplier A when working with them. ( <i>face</i> or <i>mianzi</i> indicates the honour or social standing of somebody. People have to pay special attention to the face of somebody when working with others. If people refuse or object to somebody among fellowmen, they will disgrace somebody and he or she will feel like losing face)	1	2	3	4	5
g)	We emphasize the “brotherhood relationship” or friendship developed with Supplier A. ( <i>brotherhood</i> relationship indicates the sense of chivalry or standing for the right and chivalrous. People have the generosity of spirit to accept risks or sacrifice oneself for a friend)	1	2	3	4	5

## Part C: Company Profile

17. **Major markets** for products (you can choose more than one option)

<input type="checkbox"/> Western (US, UK, EU, etc.) markets (share: _____% of <b>total</b> sales)	<input type="checkbox"/> China, Japan and/or Asian markets (share: _____% of <b>total</b> sales)
<input type="checkbox"/> Local (Hong Kong) market (share: _____% of <b>total</b> sales)	<input type="checkbox"/> Others (please specify: _____) (share: _____% of <b>total</b> sales)

18. **Company category:**

- ☐ Fully Hong Kong owned      ☐ Fully China owned      ☐ Fully overseas owned  
☐ Joint venture (Please specify: \_\_\_\_\_)

19. How many employees are there in your company?

- a. In Hong Kong      Office staff: \_\_\_\_\_      Workers: \_\_\_\_\_  
b. Outside Hong Kong (including China)      Office staff: \_\_\_\_\_      Workers: \_\_\_\_\_

20. What is your company's **average annual sales turnover** (in HK\$) for the **past 3 years?**

- ☐ under 10mn      ☐ 10-50mn      ☐ 51-100mn  
☐ 101-1,000mn      ☐ 1,001-5,000mn      ☐ 5,001-10,000mn  
☐ over 10,000mn

## Part D: Respondent Information

21. What position do you hold in your company?

- ☐ Owner      ☐ CEO/ Managing director  
☐ General manager      ☐ Departmental manager (Department: \_\_\_\_\_)  
☐ Senior Merchandiser      ☐ Others (Please specify: \_\_\_\_\_)

22. How long have you been working for your company? \_\_\_\_\_ year(s)

If you have any *comments* about the questionnaire or the topic,  
please write them down in the space below.

If you would like to receive a **copy of the report** compiled from this survey,  
please fill in your contact information below or enclose your business card:

Name of your company (optional): \_\_\_\_\_

Name: \_\_\_\_\_ E-mail address: \_\_\_\_\_@\_\_\_\_\_

☞ **End of the survey – Thank you for your support and participation!**



Your contribution to this survey is greatly appreciated.  
Please return this questionnaire using the enclosed paid envelope provided.

**Ms May Lau  
Institute of Textiles and Clothing  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon, HK**

## Appendix 6.1: Deciding goodness of fit criteria

### Unidimensionality

**Cronbach coefficient alpha.** Unidimensionality is crucial in theory testing and development. A measurement model is described as *unidimensional* if each indicator is specified to load on just one factor and the measurement error terms are independent (Anderson & Gerbing 1988; Kline 2005). Running Cronbach coefficient alpha using SPSS is a common approach used to measure unidimensionality. A reliability coefficient of around 0.90 is considered ‘excellent’, values of around 0.80 as ‘very good’, and values of around 0.70 as ‘adequate’, depending on the questions (Kline 2005). In this research, all the values of Cronbach coefficient alpha were greater than 0.70, suggesting that the items of observed variables correlated well with the true scores.

However, the use of coefficient alpha is not enough for measuring unidimensionality (Nunnally & Bernstein 1994) because coefficient alpha weights all items equally. Therefore, item loading standardised regression weights calculated using Amos, were used to increase the measurement efficiency (Hulland, Chow & Lam 1996). Different acceptable levels of were available in the literature, for instance, Churchill (1979) suggested minimum values between 0.50 to 0.70 as acceptable levels, while other authors recommended values between 0.30 to 0.50 (Kline 2005; Tabachnick & Fidell 2007). A minimum value of 0.40 was used in this research and all the standardised regression weights in each constructs were above 0.40.

**Composite scale reliability.** If a set of measures associated with any one latent variable are assumed to be either parallel or tau-equivalent, it is possible to simply sum up all related measures to form a composite scale. Then the estimate of reliability of the resulting composite scale, such as Cronbach’s alpha (1951) as discussed above, will be close to the upper bound estimate of its true reliability (Fleishman & Benson 1987). Nevertheless, if the measures associated with a latent trait are less than tau-equivalent, that is, congeneric, then a unit weighting applied to the summation of the indicator variables will result in Cronbach’s alpha being a lower bound estimate of the true reliability. Worse, if the measures being added do not reflect the same generic true score, then the resulting composite scale will also lack construct validity (Holmes-Smith, Cunningham & Coote 2007; Lord & Novick 1968). The congeneric theory regarding to a parallel, tau-equivalent and congeneric models is discussed in Appendix 6.2.

The weight factors described above are used to determine the composite scale reliability for congeneric measures. Composite reliability was calculated using the factor score weights produced from Amos for each of the one factor congeneric models. Hancock & Mueller (2001) develop a maximised reliability coefficient that determines the composite scale reliability for congeneric measures which can be computed without the use of matrix algebra as developed by Werts et al. (1978). The reliability measure is called coefficient H (Hancock & Mueller 2001). The recommended threshold value of composite scale reliability is value greater than 0.60 (Bagozzi & Yi 1988).

The advantages of Hancock and Mueller's coefficient H over other reliability measures are that the items with a negative factor loading do not detract from the reliability of the composite. Second, all variables contribute something to the construct, so every items adds to the reliability of the composite. Finally, the reliability of the composite will always be larger than the item reliability of the single best indicator variable (Cunningham 2007). The coefficient H can be calculated using the formula:

$$H = \frac{1}{1 + \left[ \frac{1}{\frac{\lambda_1^2}{1 - \lambda_1^2} + \frac{\lambda_2^2}{1 - \lambda_2^2} + \dots + \frac{\lambda_n^2}{1 - \lambda_n^2}} \right]}$$

where  $\lambda_n^2$  is the square of the factor score weights (standardised regression weights) from the items of each composite variables.

Next, the main fit statistics used in this research were discussed. The fit statistics were divided into two types: absolute fit indices and incremental (or comparative fit indices) and will be discussed below.

### **Absolute fit indices**

Absolute fit indices are a direct measure of how well the specified model reproduces the observed data (Hair et al. 2006; Hu & Bentler 1998). They include two test statistics: Chi-square ( $\chi^2$ ) and Root Mean-square Residual (RMR).

**Chi-square test ( $\chi^2$ ).** First, one of the measures of absolute fit is the Chi-square ( $\chi^2$ ) statistic test in association with its degrees of freedom ( $df$ ) and probability ( $p$ ) of significant difference (Hair et al. 2006). It is a measure of the discrepancy between the matrix of implied variances and covariances ( $\hat{\Sigma}$ ) and the matrix of empirical sample variances and covariances (**S**) (Holmes-Smith, Cunningham & Coote 2007). This is a test of exact fit, which tests whether the model exactly fits the data. A large value of chi-square relative to the degrees of freedom signifies that the observed and estimated matrices differ considerably. Contrarily, an insignificant ( $p > 0.05$ )  $\chi^2$  suggests a satisfactory fit of the model for multivariate normal data (Holmes-Smith, Cunningham & Coote 2007) and the higher the probability the closer the model is to a perfect fit (Byrne 2001).

**RMR.** Second, the Root Mean-Square Residual (RMR) is a measure of the average difference (residual) between  $\hat{\Sigma}$  and **S** per element of the variance-covariance matrix (Holmes-Smith, Cunningham & Coote 2007). It is used to compare the fit of two different models with the same data and is best suited to the analysis of standardised observed variables (Jöreskog & Sörbom 1989; Schumacker & Lomax 2004). In this research, a value of zero in the RMR measure indicates perfect fit, while a value of 0.05 or less suggests good fit, in which a value between 0.10 and 0.5 is sometimes interpreted as adequate fit (Browne & Cudeck 1993; Hu & Bentler 1999; Hulland, Chow & Lam 1996).

### **Incremental (or comparative) fit indices**

Incremental or comparative fit indices assess the extent to which the specified model fits relative to some alternative baseline model (Hair et al. 2006). It measures the proportionate amount of improvement in fit when a target model is compared with a more restricted, nested baseline model, that is a null model in which all the observed variables are uncorrelated (Hu & Bentler 1998).

**NFI, TLI and CFI.** Three incremental fit indices were reported in this research: Normed Fit Index (NFI), the Tucker Lewis Index (TLI) and Comparative Fit Index (CFI). The NFI was used to compare the difference in the  $\chi^2$  value for the fitted model and a null model divided by the  $\chi^2$  value for the null model (Hair et al. 2006).

The TLI estimates the relative improvement per degree of freedom of the target model over an independence model (Cunningham 2007). It is also termed as the Non Normed Fit Index (NNFI) because it is unaffected by the model complexity and it expresses fit per degree of freedom (Baumgartner & Homburg 1996; Kline 2005). The last fit index is CFI, which estimates the comparative difference in noncentrality between the proposed and baseline models (Schumacker & Lomax 2004). It is an improved version of NFI as it is not sensitive to model complexity and sample size. Therefore, the CFI index prevented underestimation of fit in small samples for NFI (Arbuckle 2006; Hair et al. 2006).

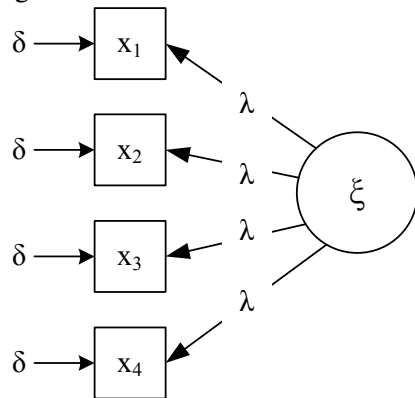
For both NFI, TLI and CFI, these indices range from zero when there is no fit at all to one when the estimated model reproduces exactly the observed data (Schumacker & Lomax 2004). In this research, the recommended cut off level is 0.80 or close to 0.90 and the range between 0.80 and 0.90 indicates an acceptable fit (Baumgartner & Homburg 1996; Hair et al. 2006), while values of 0.95 or better on these indices are viewed as indicative of good overall model fit (Hulland, Chow & Lam 1996).



## Appendix 6.2: Congeneric theory

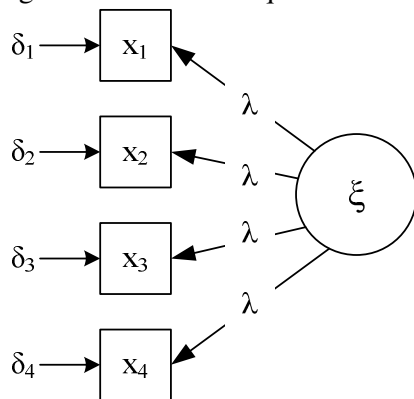
There are three types of measurement models that represent the underlying latent variables – parallel, tau-equivalent and congeneric models (Cunningham 2007; Holmes-Smith & Rowe 1994; Kline 2005). First, a parallel model is based on the assumption that each item is treated as a parallel measure and the error of measurement is assumed to have the same variance. Parallel model thus is based on the twin assumptions of equal error variance (theta) parameter and regression coefficients (lambda) parameter as shown in Figure A6.2.1.

Figure A6.2.1 Parallel models



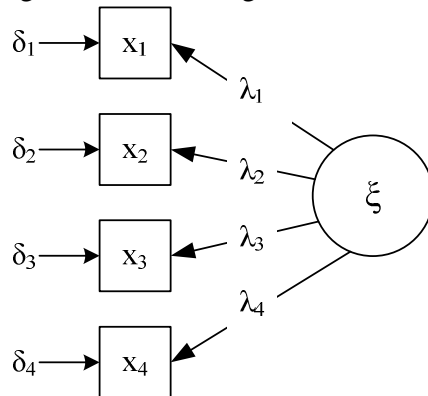
Next, a tau-equivalent model assumes that each measurement is an equally accurate indicator of the true measure (lambda), but allows error variance (theta) to be different as shown in Figure A6.2.2.

Figure A6.2.2 Tau-equivalent models



The last type is the congeneric model which assumes that each indicator reflects the underlying trait or construct in different degrees and with different error variance (Jöreskog 1971). That is, each indicator variables associated with any one factor should reflect the same generic true score, while each contributes to the factor in varying degrees (Cunningham 2007; Holmes-Smith & Rowe 1994). Figure A6.2.3 shows that in a congeneric model, both the error variances and regression coefficients are different. The values of error variances and regression coefficients in parallel and tau-equivalent models are arbitrarily assigned, while the values of error variances and regression coefficients in congeneric models are fixed at a true estimated value (Raykov 1997).

Figure A6.2.3 Congeneric models



Source: adapted from Holmes-Smith & Rowe (1994)

In this generalised model,  $\xi$  is the single latent variable;  $x_1, x_2$ , etc. are the observed indicator variables;  $\delta_1, \delta_2$  etc. are the errors associated with the measurement of  $x_1, x_2$ , etc. respectively; and  $\lambda_1, \lambda_2$  etc. are the regression coefficients of  $\xi$  in the regression of  $x_1, x_2$ , etc.

## **Fitting one-factor congeneric measurement models**

A one-factor congeneric model is an elementary form of a measurement model and represents the regression of a set of observed indicator variables on a single latent variable (Figure A6.2.3). Structural equation modelling programs such as Amos can be used to gain estimates for the regression coefficients, variance of the latent variable and the error variances. The adequacy of the estimates for these parameters and an evaluation of the overall fit of the model to the data is also provided. To have a one-factor congeneric measurement model accepted as a good fitting model, the indicator variables contributing to the overall measurement of the latent variable must all be 'of the same kind'. In other words, they must represent the same generic true score, that is, they must be valid measures of the one latent trait. In this way, the goodness-of-fit measures can be viewed as confirming the construct validity of the domain or construct of specific interest (Cunningham 2007).

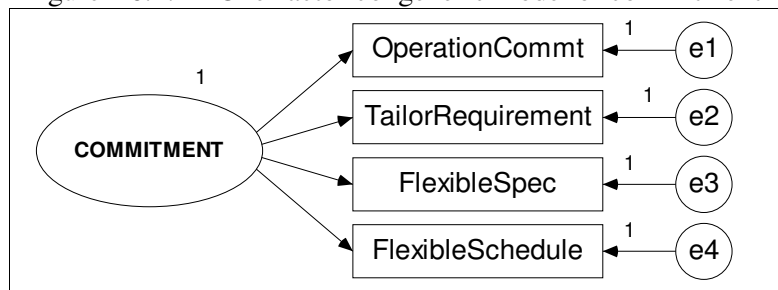
To sum up, the fitting of one-factor congeneric measurement models provides a more realistic representation of the data by allowing the differences in each individual measure contributing to the overall model (Holmes-Smith, Cunningham & Coote 2007). In the next part, seven congeneric measurement models of this study were examined. The standardized regression weights, standard errors (S.E.), critical ratios (C.R.) and their corresponding Bollen-Stine's bootstrap  $p$  value, including the goodness-of-fit estimates were illustrated in Table A6.2.1 to Table A6.2.7.

## One-factor congeneric models of antecedents of strategic networking

This part reported a confirmatory factor analysis of the first concept – antecedents of strategic networking, including commitment, trust, reputation and *guanxi*.

**One-factor congeneric model of commitment.** The first antecedent of strategic networking, commitment, had four observed variables and the structure of this model was presented in Figure A6.2.4. The results of the confirmatory one-factor congeneric measurement model are summarised in Table A6.2.1.

Figure A6.2.4 One-factor congeneric model of commitment



Note: labels are in Table 6.8

Source: developed for this research.

Table A6.2.1 Standardised and goodness-of-fit estimates of the "commitment" one-factor congeneric construct

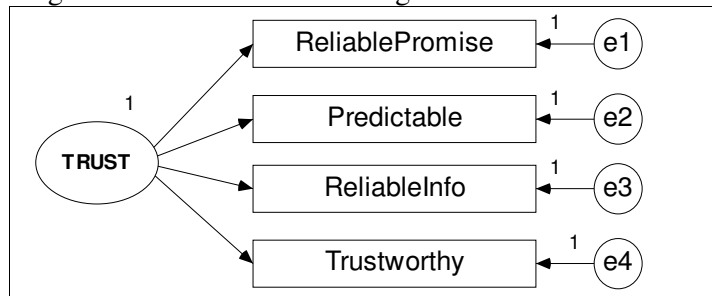
Reliability – Cronbach alpha				$\alpha = 0.725$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
OperationCommt	←	Commitment	0.615	0.082	7.410	0.000
TailorRequirement	←	Commitment	0.540	0.094	6.414	0.000
FlexibleSpec	←	Commitment	0.660	0.080	7.982	0.000
FlexibleSchedule	←	Commitment	0.717	0.080	8.674	0.000
Chi-square ( $\chi^2$ )				8.523		
Degree of freedom (df)				2		
Bollen-Stine's bootstrap p				0.165		
Root mean square residual (RMR)				0.045		
Normed fit index (NFI)				0.938		
Tucker-Lewis Index (TLI)				0.850		
Comparative fit index (CFI)				0.950		

Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for commitment was 0.725 as shown in Table A6.2.1, indicating that the variables were a reasonable measure of commitment. The goodness-of-fit statistics for this 4-indicator model of commitment were displayed in Table A6.2.1. Providing evidence in support of convergent validity, all of the measurement item weights exceeded 0.40 and were significant, suggesting that the indicators were good measures of commitment. Goodness-of-fit indices also indicated that the model fit the data well, with the Bollen-Stine's bootstrap p value, RMR, NFI, TLI and CFI all within acceptable level of criteria. The values of the goodness-of-fit statistics, standardised regression weights and reliability suggested that the model of commitment satisfactorily fit that data.

***One-factor congeneric model of trust.*** The second latent variable, trust, was initially measured by five observed variables as shown in Table A6.2.2. However, one indicator on 'fairness' was taken out because its regression weights did not fit the criteria in Sub-section 6.5.3, that is, the indicator had poor standardised regression weights. This may be due to the reason that the deleted indicator was reversely coded, respondents might misunderstand the meaning of the item. However, the structure of the justified, four-indicator measurement model shown in Figure A6.2.5 was appropriate and the results of the confirmatory factor analysis of the measurement of trust using one factor congeneric model are summarised in Table A6.2.2.

Figure A6.2.5 One-factor congeneric model of trust



Note: labels are in Table 6.8

Source: developed for this research.

Table A6.2.2 Standardised and goodness-of-fit estimates of the "trust" one-factor congeneric construct

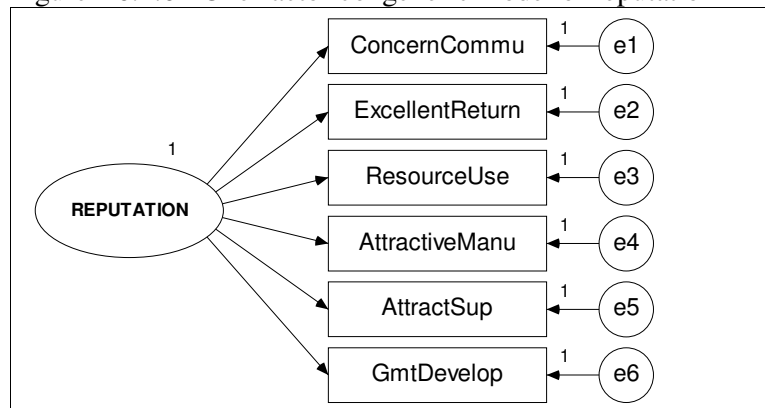
Reliability – Cronbach alpha				$\alpha = 0.885$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
ReliablePromise	←	Trust	0.823	0.047	12.472	0.000
Predictable	←	Trust	0.871	0.043	13.569	0.000
ReliableInfo	←	Trust	0.818	0.046	12.368	0.000
Trustworthy	←	Trust	0.737	0.049	10.647	0.000
Chi-square ( $\chi^2$ )				16.605		
Degree of freedom (df)				2		
Bollen-Stine's bootstrap p				0.050		
Root mean square residual (RMR)				0.018		
Normed fit index (NFI)				0.957		
Tucker-Lewis Index (TLI)				0.884		
Comparative fit index (CFI)				0.961		

Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for trust in one-factor congeneric model was 0.885 as shown in Table A6.2.2, indicating that the variables were a good measure of trust. Results suggested that all standardised regression weights were greater than 0.40 and were significant, showing that the indicators were good measures of trust and provided evidence of convergent validity. This model achieved a good fit with the RMR, NFI, TLI and CFI all within acceptable level of criteria.

**One-factor congeneric model of reputation.** The third antecedent of strategic networking was reputation and its congeneric model had six indicators as shown in Figure A6.2.6. The results of the confirmatory factor analysis of the measurement of reputation are summarised in Table A6.2.3.

Figure A6.2.6 One-factor congeneric model of reputation



Note: labels are in Table 6.8

Source: developed for this research.

Table A6.2.3 Standardised and goodness-of-fit estimates of the "reputation" one-factor congeneric construct

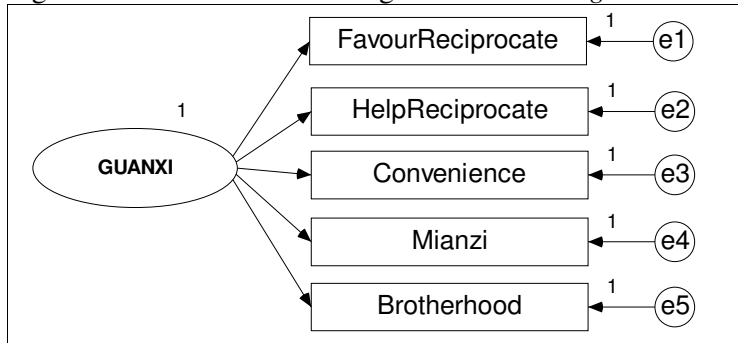
Reliability – Cronbach alpha				$\alpha = 0.839$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
ConcernCommu	←	Reputation	0.623	0.068	8.312	0.000
ExcellentReturn	←	Reputation	0.747	0.057	10.531	0.000
ResourceUse	←	Reputation	0.739	0.054	10.364	0.000
AttractiveManu	←	Reputation	0.657	0.057	8.880	0.000
AttractSup	←	Reputation	0.681	0.059	9.302	0.000
GmtDevelop	←	Reputation	0.688	0.079	9.428	0.000
Chi-square ( $\chi^2$ )				21.134		
Degree of freedom (df)				9		
Bollen-Stine's bootstrap p				0.413		
Root mean square residual (RMR)				0.030		
Normed fit index (NFI)				0.941		
Tucker-Lewis Index (TLI)				0.942		
Comparative fit index (CFI)				0.965		

Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for reputation was high (0.839), as shown in Table A6.2.3, indicating that the variables were a good measure of reputation and achieved internal reliability. The findings showed that all standardised regression weights of each of the variables for reputation were greater than 0.40, suggesting that the indicators were good measures of reputation and provided evidence of convergent validity. Goodness-of-fit indices also indicated that the model fitted the data well, with the Bollen-Stine's bootstrap p value, RMR, NFI, TLI and CFI all within acceptable level of criteria.

**One-factor congeneric model of *guanxi*.** The last antecedent of strategic networking was *guanxi* and it initially contained seven indicators. However, two of these indicators were taken out because their regression weights did not fit the criteria in Sub-section 6.5.3, that is, the indicators had poor standardised regression weights (that is, smaller than 0.40). In addition, they were dropped as evidenced in the results from case research (Chapter 3, Sub-section 3.4.2: CRQ 3). Findings of case research suggested that the principles of harmony were not important and the practice of giving gifts to partners were not obvious in business practice. Therefore, after identified that model, a five-indicator model shown in Figure A6.2.7 was appropriate. The results of the confirmatory factor analysis of the measurement of *guanxi* are summarised in Table A6.2.4.

Figure A6.2.7 One-factor congeneric model of *guanxi*



Note: labels are in Table 6.8

Source: developed for this research.

Table A6.2.4 Standardised and goodness-of-fit estimates of the "*guanxi*" one-factor congeneric construct

Reliability – Cronbach alpha				$\alpha = 0.850$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
FavourReciprocate	←	Guanxi	0.743	0.068	10.646	0.000
HelpReciprocate	←	Guanxi	0.882	0.065	13.570	0.000
Convenience	←	Guanxi	0.739	0.071	10.566	0.000
Mianzi	←	Guanxi	0.640	0.072	8.742	0.000
Brotherhood	←	Guanxi	0.642	0.079	8.777	0.000
Chi-square ( $\chi^2$ )				17.259		
Degree of freedom (df)				5		
Bollen-Stine's bootstrap p				0.191		
Root mean square residual (RMR)				0.046		
Normed fit index (NFI)				0.952		
Tucker-Lewis Index (TLI)				0.929		
Comparative fit index (CFI)				0.965		

Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for this construct was high (0.850), as shown in Table A6.2.4, indicating high internal reliability. Results also showed that all standardised regression weights of each of the variables for *guanxi* were greater than 0.40, providing an evidence of convergent validity. Further, goodness-of-fit indices also indicated that the model fitted the data well, with the Bollen-Stine's bootstrap p value, RMR, NFI, TLI and CFI all within acceptable level of criteria.

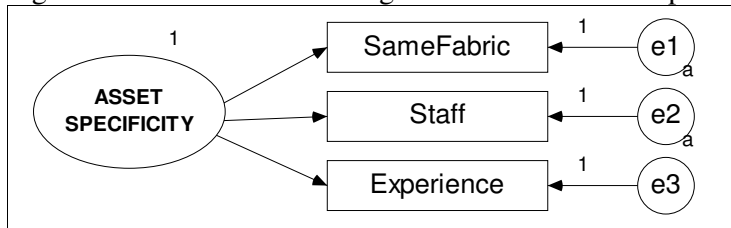


## One-factor congeneric models of intensity of collaborative relationships

This part reported a confirmatory factor analysis of the second concept – intensity of collaborative relationships, including relationship continuity and asset specificity.

**One-factor congeneric model of asset specificity.** First, asset specificity initially contained five indicators. However, one indicator, ‘replace’, was taken out because its regression weights did not fit the criteria in Sub-section 6.5.3, that is, it had poor standardised regression weights. Also, evidenced in findings in case research (Sub-section 3.4.2: CRQ 4-transaction investments in specific assets), that is, if the sourcing agreement with suppliers was cancelled, not much effort in searching for new suitable suppliers to replace their existing suppliers was needed. This item was dropped at this stage and the identified three-indicator model shown in Figure A6.2.8 was appropriate. The results of the confirmatory factor analysis of the measurement of asset specificity are summarised in Table A6.2.5.

Figure A6.2.8 One-factor congeneric model of asset specificity



Note: labels are in Table 6.8

Source: developed for this research.

TableA6.2.5 Standardised and goodness-of-fit estimates of the "asset specificity" one-factor congeneric construct

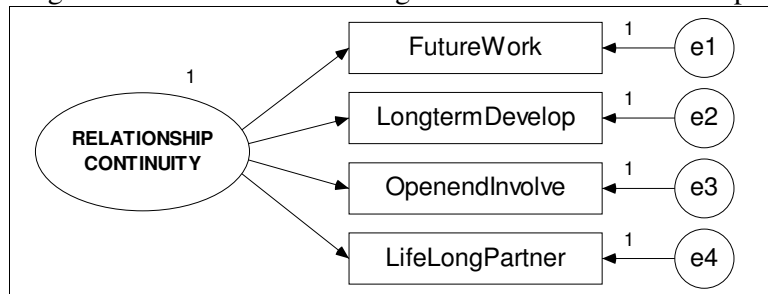
Reliability – Cronbach alpha				$\alpha = 0.708$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
SameFabric	←	Asset specificity	0.536	0.093	6.341	0.000
Staff	←	Asset specificity	0.772	0.095	8.420	0.000
Experience	←	Asset specificity	0.715	0.093	7.965	0.000
Chi-square ( $\chi^2$ )				0.194		
Degree of freedom (df)				1		
Bollen-Stine's bootstrap p				1		
Root mean square residual (RMR)				0.009		
Normed fit index (NFI)				0.998		
Tucker-Lewis Index (TLI)				1.025		
Comparative fit index (CFI)				1		

Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for asset specificity was moderate (0.708), as shown in Table A6.2.5, indicating that the variables were a reasonably good measure of the construct. Results suggested that all standardised regression weights of each of the variables for asset specificity were greater than 0.40 and provided evidence of convergent validity. Further support to the model was provided by goodness-of-fit indices with the Bollen-Stine's bootstrap p value, RMR, NFI, TLI and CFI all within acceptable level of criteria and suggested that the model fitted that data well.

**One-factor congeneric model of relationship continuity.** In turn, the congeneric model of relationship continuity had four indicators. The structure of the one-factor congeneric model of relationship continuity was presented in Figure A6.2.9. The results of the confirmatory factor analysis of the measurement of this construct are summarised in Table A6.2.6.

Figure A6.2.9 One-factor congeneric model of relationship continuity



Note: labels are in Table 6.8

Source: developed for this research.

Table A6.2.6 Standardised and goodness-of-fit estimates of the "relationship continuity" one-factor congeneric construct

Reliability – Cronbach alpha				$\alpha = 0.847$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
FutureWork	←	Relationship Continuity	0.755	0.049	10.905	0.000
LongtermDevelop	←	Relationship Continuity	0.902	0.052	13.990	0.000
OpenendInvolve	←	Relationship Continuity	0.663	0.071	9.181	0.000
LifeLongPartner	←	Relationship Continuity	0.776	0.074	11.327	0.000
Chi-square ( $\chi^2$ )				16.139		
Degree of freedom (df)				2		
Bollen-Stine's bootstrap p				0.075		
Root mean square residual (RMR)				0.042		
Normed fit index (NFI)				0.950		
Tucker-Lewis Index (TLI)				0.866		
Comparative fit index (CFI)				0.955		

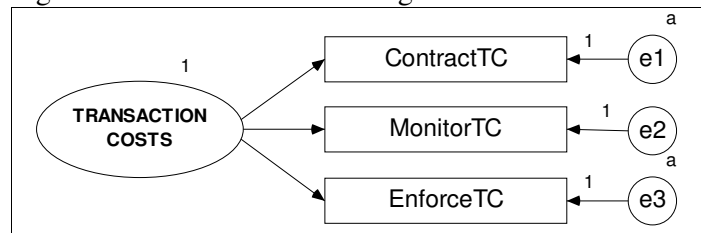
Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for relationship continuity one-factor congeneric model was high (0.847), as shown in Table A6.2.6, indicating that the variables were a good measure of this construct. Results suggested that all standardised regression weights of each of the variables for this construct were greater than 0.40 and provided evidence of convergent validity. Also, goodness-of-fit indices also indicated that the model fit the data well, with the Bollen-Stine's bootstrap p value, RMR, NFI, TLI and CFI all within an acceptable level of criteria.

### One-factor congeneric model of transaction costs

The last one-factor congeneric model was transaction costs, which initially contained four observed variables. One indicator was taken out because its regression weights did not fit the criteria in Sub-section 6.5.3, that is, the indicator had poor standardised regression weights. Evidence in results from case research (Sub-section 3.4.2: CRQ 5), search cost for finding suitable suppliers to replace existing suppliers was not a concern for responding firms, so this item was not suitable for the clothing industry. The three-indicator congeneric model of transaction costs was shown in Figure A6.2.10. Further, the results of the confirmatory factor analysis of the measurement of this construct were summarised in Table A6.2.7.

Figure A6.2.10 One-factor congeneric model of transaction costs



Note: labels are in Table 6.8

Source: developed for this research.

Table A6.2.7 Standardised and goodness-of-fit estimates of the "transaction costs" one-factor congeneric construct

Reliability – Cronbach alpha				$\alpha = 0.794$		
Standardised regression weight ( $\beta$ )				S.E.	C.R.	p value
ContractTC	←	Transaction costs	0.731	0.077	9.923	0.000
MonitorTC	←	Transaction costs	0.852	0.077	11.318	0.000
EnforceTC	←	Transaction costs	0.685	0.073	9.119	0.000
Chi-square ( $\chi^2$ )				0.496		
Degree of freedom (df)				1		
Bollen-Stine's bootstrap p				1		
Root mean square residual (RMR)				0.013		
Normed fit index (NFI)				0.997		
Tucker-Lewis Index (TLI)				1.010		
Comparative fit index (CFI)				1		

Source: maximum likelihood estimation with Amos 5.0.

The coefficient alpha for transaction costs one-factor congeneric model was high (0.794), as shown in Table A6.2.7, indicating internal reliability of the construct. Results suggested that all standardised regression weights of each of the variables for this construct were greater than 0.40 and provided evidence of convergent validity. Also, goodness-of-fit indices also indicated that the model fitted the data well, with the Bollen-Stine's bootstrap p value, RMR, TLI and CFI all within acceptable level of criteria.

In brief, the values of the goodness-of-fit statistics, standardised regression weights and reliability suggested that the all measurement models in this part satisfactorily fit the data.

### Appendix 6.3: Discriminant validity – structure coefficients

The observed variables in Table A6.3.1 are represented by the symbols below.

<b>Antecedents of strategic networking</b>	
D	Commitment
D1	OperationCommt
D2	TailorRequirement
D3	FlexibleSpec
D4	FlexibleSchedule
A	Trust
A1	ReliablePromise
A2	Predictable
A3	ReliableInfo
A4	Trustworthy
C	Reputation
C1	ConcernCommu
C2	ExcellentReturn
C3	ResourceUse
C4	AttractiveManu
C5	AttractSup
C6	GmtDevelop
B	<i>Guanxi</i>
B1	FavourReciprocate
B2	HelpReciprocate
B3	Convenience
B4	<i>Mianzi</i>
B5	Brotherhood

<b>Intensity of collaborative relationships</b>	
E	Size of supplier base
G	Asset specificity
G1	SameFabric
G2	Staff
G3	Experience
F	Relationship continuity
F1	FutureWork
F2	LongtermDevelop
F3	OpenendInvolve
F4	LifeLongPartner
H	<b>Transaction costs</b>
H1	ContractTC
H2	MonitorTC
H3	EnforceTC

Table A6.3.1 Implies (for all variables) correlations

	A	B	C	D	E	F	G	H	H3	H2	H1	F4	F3	F2	F1
<b>A</b>	1.000														
<b>B</b>	0.009	1.000													
<b>C</b>	0.312	0.173	1.000												
<b>D</b>	0.065	0.520	0.079	1.000											
<b>E</b>	-0.072	0.012	0.203	-0.010	1.000										
<b>F</b>	0.249	0.151	0.276	0.087	0.028	1.000									
<b>G</b>	0.042	0.143	0.075	0.277	0.007	0.039	1.000								
<b>H</b>	-0.301	0.055	0.067	0.049	0.109	-0.222	0.388	1.000							
<b>H3</b>	-0.210	0.039	0.047	0.034	0.076	-0.155	0.271	0.699	1.000						
<b>H2</b>	-0.250	0.046	0.056	0.041	0.091	-0.185	0.323	0.832	0.581	1.000					
<b>H1</b>	-0.231	0.043	0.052	0.038	0.084	-0.171	0.298	0.769	0.537	0.640	1.000				
<b>F4</b>	0.182	0.110	0.202	0.064	0.021	0.731	0.029	-0.162	-0.113	-0.135	-0.125	1.000			
<b>F3</b>	0.150	0.091	0.167	0.053	0.017	0.605	0.024	-0.134	-0.094	-0.112	-0.103	0.627	1.000		
<b>F2</b>	0.232	0.141	0.258	0.081	0.026	0.934	0.037	-0.207	-0.145	-0.173	-0.160	0.683	0.565	1.000	
<b>F1</b>	0.187	0.113	0.208	0.066	0.021	0.753	0.029	-0.167	-0.117	-0.041	-0.129	0.550	0.455	0.703	1.000
<b>G3</b>	0.030	0.101	0.053	0.195	0.005	0.028	0.705	0.273	0.191	0.227	0.210	0.020	0.017	0.026	0.021
<b>G2</b>	0.033	0.111	0.058	0.215	0.006	0.030	0.775	0.300	0.210	0.250	0.231	0.022	0.018	0.028	0.023
<b>G1</b>	0.023	0.080	0.042	0.155	0.004	0.022	0.558	0.216	0.151	0.180	0.276	0.016	0.013	0.020	0.016
<b>B1</b>	0.007	0.753	0.130	0.391	0.009	0.113	0.108	0.042	0.029	0.035	0.032	0.083	0.069	0.106	0.085
<b>B2</b>	0.008	0.877	0.152	0.456	0.010	0.132	0.126	0.049	0.034	0.040	0.037	0.097	0.080	0.123	0.099
<b>B3</b>	0.007	0.746	0.129	0.388	0.009	0.112	0.107	0.041	0.029	0.034	0.032	0.082	0.068	0.105	0.085
<b>B4</b>	0.006	0.634	0.110	0.330	0.008	0.096	0.091	0.035	0.025	0.029	0.027	0.070	0.058	0.089	0.072
<b>B5</b>	0.006	0.637	0.110	0.331	0.008	0.096	0.091	0.035	0.025	0.029	0.027	0.070	0.058	0.090	0.072
<b>C1</b>	0.190	0.105	0.610	0.048	0.124	0.168	0.046	0.041	0.029	0.034	0.032	0.123	0.102	0.157	0.127
<b>C2</b>	0.239	0.133	0.768	0.060	0.156	0.212	0.058	0.052	0.036	0.043	0.040	0.155	0.128	0.198	0.160
<b>C3</b>	0.242	0.134	0.776	0.061	0.157	0.214	0.058	0.052	0.037	0.044	0.040	0.157	0.130	0.200	0.161
<b>C4</b>	0.192	0.106	0.615	0.048	0.125	0.170	0.046	0.042	0.029	0.035	0.032	0.124	0.103	0.159	0.128
<b>C5</b>	0.200	0.111	0.643	0.051	0.130	0.178	0.048	0.043	0.030	0.036	0.033	0.130	0.107	0.166	0.134
<b>C6</b>	0.201	0.112	0.646	0.051	0.131	0.178	0.049	0.044	0.030	0.036	0.034	0.130	0.108	0.166	0.134
<b>D1</b>	0.047	0.381	0.058	0.732	-0.008	0.064	0.203	0.036	0.025	0.030	0.028	0.047	0.039	0.060	0.048
<b>D2</b>	0.037	0.299	0.045	0.575	-0.006	0.050	0.159	0.028	0.020	0.024	0.022	0.037	0.030	0.047	0.038
<b>D3</b>	0.048	0.389	0.059	0.747	-0.008	0.065	0.207	0.037	0.026	0.031	0.028	0.048	0.039	0.061	0.049
<b>D4</b>	0.041	0.329	0.050	0.633	-0.007	0.055	0.175	0.031	0.022	0.026	0.024	0.040	0.033	0.052	0.042
<b>A1</b>	0.763	0.007	0.238	0.049	-0.055	0.190	0.032	-0.229	-0.160	-0.191	-0.177	0.139	0.115	0.177	0.143
<b>A2</b>	0.820	0.007	0.256	0.053	-0.059	0.204	0.034	-0.246	-0.172	-0.205	-0.190	0.149	0.123	0.191	0.154
<b>A3</b>	0.827	0.007	0.258	0.054	-0.060	0.206	0.035	-0.249	-0.174	-0.207	-0.191	0.150	0.124	0.192	0.155
<b>A4</b>	0.735	0.007	0.229	0.048	-0.053	0.183	0.031	-0.221	-0.154	-0.184	-0.170	0.134	0.111	0.171	0.138

Notes: top left section indicates factor intercorrelation, middle bottom left reveals structure coefficients, right hand section shows reproduced correlations derived from the parameter estimates

Source: analysis of field data.

Table A6.3.1 (cont)

	G3	G2	G1	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6
<b>G3</b>	1.000													
<b>G2</b>	0.546	1.000												
<b>G1</b>	0.393	0.432	1.000											
<b>B1</b>	0.076	0.084	0.060	1.000										
<b>B2</b>	0.089	0.097	0.070	0.660	1.000									
<b>B3</b>	0.075	0.083	0.060	0.562	0.654	1.000								
<b>B4</b>	0.064	0.070	0.051	0.477	0.556	0.474	1.000							
<b>B5</b>	0.064	0.071	0.051	0.479	0.558	0.475	0.545	1.000						
<b>C1</b>	0.032	0.036	0.026	0.079	0.092	0.079	0.067	0.067	1.000					
<b>C2</b>	0.041	0.045	0.032	0.100	0.116	0.099	0.084	0.085	0.468	1.000				
<b>C3</b>	0.041	0.045	0.033	0.101	0.118	0.100	0.213	0.086	0.473	0.596	1.000			
<b>C4</b>	0.033	0.036	0.026	0.080	0.093	0.079	0.068	0.068	0.375	0.472	0.477	1.000		
<b>C5</b>	0.034	0.038	0.027	0.084	0.098	0.083	0.071	0.071	0.392	0.494	0.499	0.573	1.000	
<b>C6</b>	0.034	0.038	0.027	0.084	0.098	0.083	0.071	0.071	0.513	0.496	0.501	0.397	0.415	1.000
<b>D1</b>	0.143	0.157	0.113	0.286	0.334	0.284	0.241	0.242	0.035	0.044	0.045	0.035	0.037	0.037
<b>D2</b>	0.112	0.124	0.089	0.225	0.262	0.223	0.190	0.191	0.151	0.035	0.035	-0.095	0.029	0.029
<b>D3</b>	0.146	0.160	0.116	0.292	0.341	0.290	0.246	0.247	0.036	0.045	0.046	0.036	0.038	0.038
<b>D4</b>	0.124	0.136	0.098	0.248	0.207	0.246	0.209	0.210	0.030	0.038	0.039	0.031	0.032	0.032
<b>A1</b>	0.023	0.025	0.018	0.005	0.087	0.005	0.004	0.004	0.145	0.183	0.185	0.146	0.153	0.154
<b>A2</b>	0.024	0.027	0.019	0.006	0.006	0.006	0.005	0.005	0.156	0.196	0.198	0.157	0.164	0.165
<b>A3</b>	0.024	0.027	0.019	0.006	0.007	0.006	0.005	-0.100	0.157	0.198	0.200	0.159	0.166	0.166
<b>A4</b>	0.022	0.024	0.017	0.005	0.006	0.005	0.004	0.004	0.140	0.176	0.178	0.141	0.147	0.148

Source: analysis of field data.

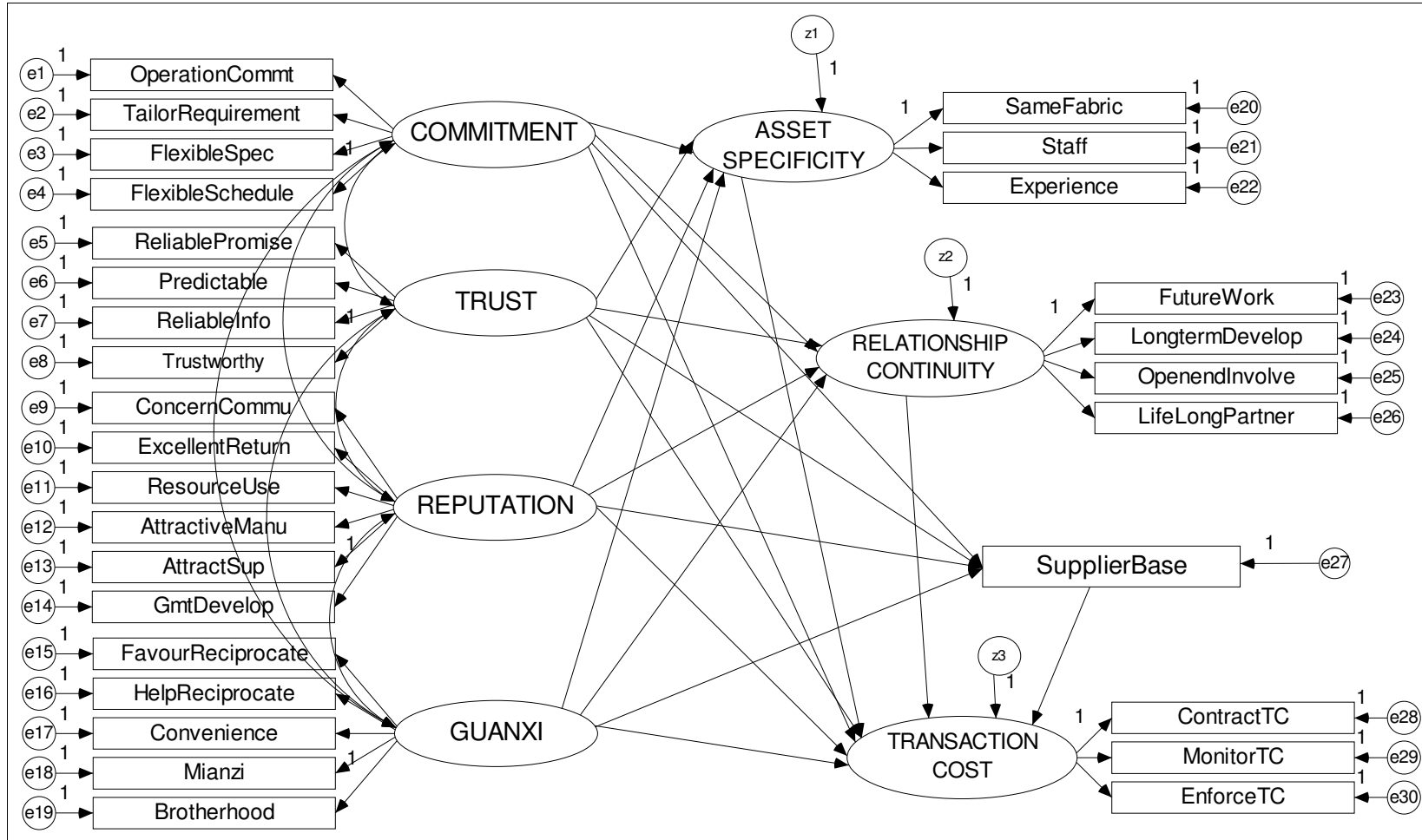
Table A6.3.1 (cont)

	D1	D2	D3	D4	A1	A2	A3	A4
<b>D1</b>	1.000							
<b>D2</b>	0.421	1.000						
<b>D3</b>	0.339	0.430	1.000					
<b>D4</b>	0.463	0.364	0.473	1.000				
<b>A1</b>	0.036	0.028	0.037	0.031	1.000			
<b>A2</b>	0.039	0.031	0.040	0.034	0.756	1.000		
<b>A3</b>	0.039	0.031	0.040	0.034	0.631	0.678	1.000	
<b>A4</b>	0.035	0.027	0.036	0.148	0.561	0.603	0.681	1.000

Source: analysis of field data.



## Appendix 6.4: Path diagram of the structural model



Source: analysis of field data.

## **Appendix 7.1: Discussions on one contradictory research hypothesis**

After analysing the survey findings of this research in Chapter 6, one of the sub-hypotheses – H3.1 – was contradictory to theoretical arguments. *Sub-hypothesis 3.1* shows that investment in specific assets has a negative impact on transaction costs, while survey findings showed a positive association between the two constructs (Sub-section 6.5.5).

The literature suggests that increase in specific assets lead to a reduction in transaction costs. One way of reducing transaction costs is to invest in specific assets under hybrid transactions (Williamson 1975, 1979, 1985). Parties will find transaction costs lower if they adopt a governance structure likely to sustain the relationship than if they do not (Macneil 1981). If parties can adopt a relational governance structure to safeguard their investments, they can benefit from lower cost, less opportunism and the continuation of their relationship. A strategic network is such a relational structure involving long-term investments under repeated transaction of products among partners (Ring & Van de Ven 1992). Transaction costs under strategic networks decrease over a longer period of time as such non-contractual, self-enforcing safeguard mechanisms can control opportunism and effectively protect transaction-specific investments over an indefinite time horizon (Dyer 1997). Then, firms can simultaneously achieve the twin benefits of high asset specificity and low transaction costs as proposed in the Sub-hypothesis 3.1 (Dyer 1997).

### **Post-survey interviews**

As survey findings were contradictory to the literature, post-survey interviews were needed to refine or understand the underlying reasons for the opposite direction of the path.

*Profiles of the post-survey respondents.* Seven supplementary in-depth post-survey interviews were conducted. The participants of this post-survey study come from the survey respondents. The interviews were conducted face-to-face with the participants to further clarify the proposed cause-effect relationships of the contradictory finding and to locate the reasons or underlying situations.

Each of the participants had developed relationships with suppliers. All participants of the post-survey interviews were Chinese and their firms were based in Hong Kong.

These firms had over five years of operational experiences in dealing with their suppliers. They were all wholly Hong Kong-owned companies having core businesses in clothing manufacturing. They had been established for anywhere from four to fifteen years and had annual sales turnovers ranging from US\$2 million to US\$70 million in 2007 to 2008. Their major markets were the United States, Europe, China and Japan.

In addition, the participants were all senior staff of their respective companies. Each of them had more than four years of working experiences in the company and had direct involvement in managerial roles in merchandising, sales and marketing or corporate development. They had vast experience in managing network relationships with their suppliers. Hence, the reliability of the findings could be guaranteed and justified. Detailed profiles of the responding companies are shown in Table A7.1.1.

Table A7.1.1 Company profiles of post-survey interviews

Company profiles	Company						P7
	P1	P2	P3	P4	P5	P6	
Years of establishment	10 years	15 years	10ears	14 years	6 years	4 years	4 years
Annual sales turnover in 2006/7	US 50 million	US 70 million	US 13 million	US 64 million	US 10 million	US 12 million	US 2 million
Total employees	1 500	10 000	3 200	1 210	812	422	105
Business nature	Clothing manufacturing, design and product development	Clothing manufacturing, retailing, distribution	Clothing manufacturing	Clothing manufacturing	Clothing manufacturing	Clothing manufacturing	Clothing manufacturing
Major markets	United States, Europe, China	United States, Europe, others	United States, Europe, Japan	United States, Europe	Europe, Japan, others	United States, Europe, Japan, China	United States, Europe, Hong Kong
Job title of interviewees	Assistant merchandising manager	CEO	Merchandising manager	Managing director	President	General manager	Merchandising manager
Years of working in the company	7 years	15 years	6 years	14 years	6 years	4 years	4 years

***Findings from the post-survey interviews.*** After conducting interviews with the seven executives from the industry, the quotations from the interviews were used to support data interpretation and to justify the conclusions drawn from comparing the differences among cases (Perry 1998). This part reported the quotations and findings of a hypothesis from the post-survey interviews in order to find out the underlying reasons of the contradictory relationships.

Firstly, a positive relationship was found between the specific investments of buying firms and transaction search costs when dealing with new suppliers. All interviewees from post-survey interviews agreed that there were a variety of supplier choice supplying with many types of fabric in the clothing market in different countries, such as China, Taiwan, Korea and Italy, so it was not difficult to find new suppliers. However, it was difficult to search for suppliers possessing specific capability and fabric machines, so firms have to use more resources in searching for suitable suppliers when the sourcing agreement with existing suppliers was cancelled. Therefore, the *ex ante* transaction search costs were higher with new suppliers that possessed specific capability. Interviewee of Company P1 stated that:

[...] if the fabric purchased was highly specific to customers' requirements, such as blended fabrics with special functions like quick dry, flammability and mercerised, it would be very difficult to find another suppliers providing fabric with the same or even similar specification. Then, searching transaction costs will be very high when the sourcing agreement with suppliers is cancelled.

Secondly, when interviewees were not satisfied with existing suppliers and found new suppliers from the market, higher contracting transaction costs were involved. The *ex ante* contracting costs involved in negotiating with suppliers of the price and target of delivery were high for new suppliers in a first purchase order. Responding firms had to consider much on the risks of doing business with such suppliers as no past experience could be referenced. Also, more costs were involved in training staff from interviewing firms in dealing with specific compatible procedures. For example, the interviewee of Company P5 emphasised that:

[...] The negotiation time for fabric price and target lead time is always higher for a new supplier because we do not know it well. We cannot base on past experience to set our profit margin of the purchase order related to the fabric, so it does take more time.

Thirdly, the investment in specific assets and *ex post* monitoring costs were also high for new suppliers. More frequent inspection for fabric was needed to ensure the quality of the fabric met customers' requirement, so higher human specific assets were involved. For example, from the words of the interviewee of Company P6:

[...] We pay more attention on the fabric provided by new suppliers. We spend higher costs in sending our staff in checking and testing the ability of suppliers so as to ensure them meeting our standards and customers' requirement.

Lastly, the *ex post* enforcement costs were also higher for exchange relationships new suppliers. When there were material changes under contingent situations, the negotiation process could be hastened if dealing with long-term suppliers, while the negotiation with new suppliers involved longer time. For instance, the interviewee of Company P7 suggested that:

[...] Normally, the process of bargaining due to changes in material specification from customers is short if we deal with existing suppliers developed with long-term relationships. But, if we transact with new suppliers, the negotiation time will be longer because we do not familiar with the suppliers in their operation process.

## **Discussions on this contradictory research hypothesis**

As discussed previously, the main literature suggests a negative relationship between asset specificity and transaction costs, while some literature on TCA in Sub-section 4.2.3, findings from the case research in Sub-section 3.4.2, findings from the survey in Sub-section 6.5.5 and findings from the post-survey interviews in this Appendix showed a positive association between the two constructs. This part summarise details of such a positive association.

According to some literature on TCA and consistent to survey findings, firms are required to invest substantial specific assets in their collaborative relationships in a dynamic and competitive environment, so higher levels of asset specificity increases transaction costs of exchange (Heide & John 1992). In this situation, asset specificity increases the transaction costs of exchange relationships because firms need to safeguard its investments from opportunistic behaviour and relationship termination. An exchange partner who has invested in a substantial amount of specific assets would be at risk if appropriate safeguards are not developed to avoid opportunism (Williamson 1975, 1985; Wilson 1995). In addition, Ring and Van de Ven (1992) described a strategic network as involving long-term investments under repeated transaction of

products among partners. The jointly developed products involve a high degree of specific investments. As the specific investments cannot be redeployed with other firms and when the parties are exposed to greater uncertainty and risks of opportunistic behaviour in the exploration phase of relationship, these investments can force firms to act fairly with their partners. When asset specificity increases, so do the governance costs to protect such assets.

Moreover, findings from the case research (Sub-section 3.4.2: CRQ 5) and post-survey interviews also supported such a positive relationship between asset specificity and transaction costs. When responding firms started doing business with new suppliers, a great deal of time and costs were needed to monitor supplier quality and performance. In addition, buying firms need to invest in assets such as training their employees to adapt to the working styles of the new suppliers and learning suppliers' capabilities, resulting in increased costs in both specific asset investments and transactions. However, after several seasons of transactions, that is, in the expansion phase, during which buying firms develop relationships and gain experience with suppliers, both of these costs will decline. Transaction costs increase in the exploration phase of a relationship, and would decrease in the long run, such as in the expansion and maintenance phase. Therefore, in order to obtain high asset specificity with low transaction costs, firms have to cooperate with suppliers in longer term.

To conclude, asset specificity is positively associated with transaction costs in the exploration phase of a relationship. If buying firms are not employing relational governance structures, such as strategic networks, the transaction costs would be higher (Heide & John 1992; Williamson 1975, 1979, 1985). They have to protect their substantial specific assets from suppliers' opportunistic behaviour in a newly developed relationship. Transaction costs could be reduced only when a long history was built between buyers and suppliers. Therefore, buying firms have to strategically network with their suppliers in order to outweigh transaction costs.

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