

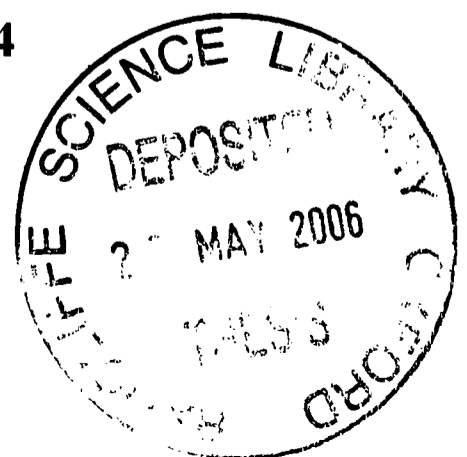


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**INTERPERSONAL TRUST AND  
BUSINESS RELATIONSHIPS**

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**A thesis submitted for the degree of Doctor of Philosophy  
Department of Experimental Psychology  
University of Oxford, Michaelmas Term, 2004**



# Table of Contents

Acknowledgements / I

Abstract / II

Extended Abstract / III - XI

<b>Chapter 1</b>	<b>Overall Introduction</b>	1
1.1	Three Topics of Trust	10
1.2	Entrepreneurship and Network Ties	17
1.3	The Present Research	23
1.4	Aims of the Thesis	24
<b>Part A – Trust as Expectations in Strong Ties and Weak Ties</b>		
<b>Chapter 2</b>	<b>Literature Review and a Theoretical Model of Trust</b>	26
2.1	Social Exchange and Trust	27
2.2	Negotiated and Reciprocal Exchanges	31
2.3	Expectations and Generalised Expectancies	34
2.4	Bases of Trust and Fundamental Expectations	38
2.5	Norm of Reciprocity	46
2.6	A Theoretical Model of Trust	50
2.7	Reciprocity and Strength of Relationship	56
2.8	The Definition of Interpersonal Trust for a Theoretical Model of Trust	58
2.9	Psychology of Morality	59
2.10	Summary	62
<b>Chapter 3</b>	<b>An Experiment to Test the Theoretical Model of Trust</b>	65
3.1	Research Method	66
3.1.1	Measures	66
3.1.2	Research Participants	70
3.1.3	Analytic Procedures	71
3.2	Results	75
3.2.1	Comparison of Levels of Expectations and Trust Levels	75
3.2.2	Factor Structure	82
3.2.3	Empirical Testing of the Theoretical Model of Trust	100
3.3	Discussion	109

## **Part B - Trust in Strongest Business Ties With and Without Friendship**

<b>Chapter 4</b>	<b>Literature Review</b>	<b>127</b>
4.1	Possible Predictors of Interpersonal Trust	128
4.2	Trust and Relationship Strength	131
4.3	Trust and Business Value Similarity	140
4.4	Trust and Common Ground	146
4.5	Trust and Reliability	159
4.6	Study Hypotheses	161
<b>Chapter 5</b>		<b>163</b>
5.1	Research Method	164
5.1.1	Measures	164
5.1.2	Research Participants	169
5.1.3	Analytic Procedures	171
5.2	Results	176
5.2.1	Tests for Significant Differences between Variables	176
5.2.2	Factor Structure	178
5.2.2.1	Factor Structure of Relationship Association	179
5.2.2.2	Factor Structures of Common Ground and Business Values	185
5.2.2.3	Factor Structure of Importance of Shared Common Ground and Business Values	188
5.2.3	Item Parcels of Hypothesised Combination of Variables	193
5.2.4	Empirical Testing of Hypothesised Models	196
5.3	Discussion	215

## **Part C – Business Trust Values: A Comparative Study of Business Executives in Southern England and Hong Kong**

<b>Chapter 6</b>	<b>Literature Review</b>	<b>231</b>
6.1	Individualism-Collectivism and Trust	234
6.2	Reciprocation of Favours and Guanxi	240
6.3	Institution-Based Trust, Law and Contract	242
6.4	Trust in Uncertain and Vulnerable Situations	245
6.5	Ethical Considerations	247
6.6	Culture and Business Ethics	251
6.7	Relations between Individualism-Collectivism and Trust Domains	253
6.8	Measures of Individualism and Collectivism	257
6.9	Review of Other Trust Scales	260
6.10	Summary	261

<b>Chapter 7</b>	<b>Exploratory Study of Models of Trust Basis</b>	<b>262</b>
7.1	Research Method	263
7.1.1	Measures	263
7.1.2	Construction of a Psychological Scale	268
7.1.2.1	Reliability	268
7.1.2.2	Consideration of Reverse Scoring	269
7.1.2.3	Construct validity and Concurrent Validity	269
7.1.3	Research Participants	271
7.1.4	Analytic Procedures	272
7.2	Results	273
7.2.1	Factor Structures of the Cultural Items	274
7.2.2	Confirmatory Factor Analyses of Trust Values	283
7.2.2.1	The Trust Domains of the UK Sample for Direct Comparison with HK	289
7.2.2.2	The Trust Domain of the HK Sample for Direct Comparison with UK	292
7.2.2.3	Inclusion of Institution-based Trust in the UK Sample	295
7.2.3	Independent t-Tests of the Common Cultural Factor and Discretionary Trust	299
7.2.3.1	The Common Cultural Factor	299
7.2.3.2	Discretionary Trust	300
7.2.4	Tests of Association Between Individualism-Independence and Discretionary Trust	300
7.2.5	Concurrent Validity of Discretionary Trust and Ethical Trust	306
7.3	Discussion	311
<b>Chapter 8</b>	<b>Conclusions</b>	<b>332</b>
8.1	Aims of the Thesis Revisited	333
8.2	Empirical Conclusions	338
8.3	Cultural Implications for Trust Production in Different Cultures	343
8.4	Limitations	346
8.5	Relationship between Liking and Trust	350
8.6	Research Achievements	353
8.7	Future Research Directions	355
	References	362
	Appendix A – For the Study in Part A	387
	Appendix B – For the study in Part B	415
	Appendix C – For the Study in Part C	470
	Appendix D – Supplementary Explanation Concerning Structural Equation Modelling	513
	Appendix E – Measures in the Study in Part A	520
	Appendix F – Measures in the Study in Part B	527
	Appendix G – Measures in the Study in Part C	534

## **Acknowledgements**

I am deeply grateful to my supervisor, Dr. Brian Parkinson, for his guidance, support, and editorial advice. I would also like to express appreciation to my previous supervisors, Prof. Nick Emler and Dr. Sue Dopson, and to Dr. Peter Collett who was my Academic Advisor in the early stages of the doctoral process. Gratitude was also expressed to my examiners, Dr. Geoff Thomas and Dr. Ann Dowker who gave me valuable inputs on the corrections.

I would like to thank everybody: friends, colleagues and business executives, who have assisted me in carrying out my research. In particular, I would like to thank (in alphabetical orders) Brian Altenburg, Catherine Crane, Huw Edwards, Bob Garratt, Niharika Gupta, Lisa Lee, and Paul Taylor for their help. I must also thank Paul Bradstock, David Gemmill, Tristan Gemmill, Julia Grant, Sir Douglas Hague, Phyllis Kwong, Chu Kap Ning, Dame Shirley Oxenbury, Sara Randell, Corinna Buckley Slater, and Barry Telling for giving me their contacts of entrepreneurs for interviews. I am also grateful to Sir Trevor Baylis, Sir Michael Bett, Colin Boswell, Lord Chadlington, Paul Hannam, Alex Hicks, Geoff Mulgan, Prof. Graham Richards, Prof. Joshua Silver, David Walpole, Prof. Colin Web, Christopher Weston, and Sir Martin Wood for sharing their insights into experiences of building trust and networking. Access to the computer facilities in the Shanghai office of Shell China Limited was very valuable when research interviews were conducted in the city.

Finally, I would like to express gratitude to my parents for their love and support, and Michael Hampton for his understanding and tolerance during the times I was under pressure.

# **Interpersonal Trust and Business Relationships**

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## **Abstract**

This thesis investigated factors predicting trust in business executives' relationships with their strong and weak ties, and the structure of business trust values among executives in the UK and Hong Kong. Relationships between individualism-collectivism and business trust values were also addressed. The research draws on Zucker's (1986) definition and production of trust, Butler's (1983) reciprocity of trust, Blau's (1964) social exchange theory, similarity-attraction theory, Granovetter's (1973) tie strength, and literature concerning friendship, individualism-collectivism and trust in order to develop hypotheses in three studies.

The first study examined the notion of trust through measures of expectations of trusting behaviours that predicted dyadic trust between UK business executives and their strong and weak ties. Expectations of honesty, reliability and discretion were found to be the fundamental expectations that influenced trust in both types of ties. Expectation of reciprocity of trusting behaviours between actors was also investigated but no evidence was found for their influence.

The second study explored antecedents of trust between UK business executives and their strongest business ties. Findings differed depending on whether strongest business ties involved friendship. Common ground (e.g. similar education, interests and work place) had an indirect effect on trust in strongest business friendship ties but not in strongest business ties. These findings suggest that dyads in strongest business relationships shared less in common than relationships that contained friendship.

The third study developed a multidimensional scale of business trust values and explored its relationships with individualism-collectivism in the UK and HK. Trust values were found to be discretionary in both groups. Intolerance of questionable business practices was found in the UK group.

The research was multi-method as it combined qualitative semi-structured interviews with quantitative surveys. The thesis concludes by discussing cultural implications for the formation of trust among business people in the UK and China, and future research directions.

(This thesis is approximately 79,800 words in length.)

# **Interpersonal Trust and Business Relationships**

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## **Extended Abstract**

The increasingly integrated global economy creates demand for cross-cultural understanding of the psychology of interpersonal trust among business executives in the course of networking and conducting business transactions. This thesis examines interpersonal trust between business executives and their business relationships in Southern England and Hong Kong (HK). Because of a diversity of interpretations of trust from different approaches, this thesis investigates three topics of interpersonal trust in three studies, which are presented in Part A, B and C respectively. The UK data were collected from business executives who were small business owners and senior executives (such as bankers, accountants and lawyers) in breakfast clubs and business dinners organised by professional institutions. The HK data were mainly collected from counterparts in business luncheons organised by chapters of the Rotary Club in HK. Techniques of structural equation modelling were employed in order to perform confirmatory factor analyses, and examine causal constructs and mediating effects simultaneously in predictive models of trust.

**Chapter One** introduces the three topics of interpersonal trust examined in this thesis.

The first study examined fundamental expectations of trusting behaviours that predicted dyadic trust between UK business executives and their strong and weak ties,

and expectations of reciprocity of trusting behaviours between actors. The second study explored antecedents of interpersonal trust between UK business executives and their strongest business ties, and compared predictors in their ties with and without friendship. Since trust was measured as a single variable in the first and second study, the third study investigated domains of business trust values as a multidimensional trust scale in the UK and HK. Further, the topic of entrepreneurship through social networks and typologies of network ties are also introduced with the objective of highlighting the importance of entrepreneurship even among small business owners and relevant typology of social networks.

## **Part A - Trust as Expectations in Strong Ties and Weak Ties**

**Chapter Two** seeks to develop a theoretical model of trust by addressing what trust means between UK business executives and their strong and weak ties in doing business with each other. This was achieved by expanding Zucker's (1986) definition of trust as a set of expectations shared by all those involved in an exchange to incorporate three other concepts. First, Emerson's (1981) distinction between negotiated and reciprocal exchanges suggested that expectations of trusting behaviours in the context of the present thesis would fall into these two types of exchanges. This thesis posited that expectations of honesty, reliability and discretion with reference to Butlers' (1991) conditions of trust and Rotter's (1967, 1971) generalised expectancies were fundamental in negotiated exchanges, and influenced business executives' trust in their strong and weak ties. However, expectations of mutual benefits and reciprocating favours might be important to reciprocal exchanges following Blau's (1964) view of social exchange involving favours and returning

received benefits, but were not fundamental expectations. Second, this thesis proposed a notion of meta-trust to signify a meta-cognitive process underlying reciprocity of trust (Butler, 1983, 1986). Third, this thesis further assessed whether there is a norm of reciprocity that serves as a mechanism to motivate both actors to reciprocate trusting behaviours in an exchange. A theoretical model of trust for strong and weak ties (see Figure 2.3), a revised definition of interpersonal trust and a set of hypotheses were then proposed.

**Chapter Three** presents a study to test the proposed theoretical model of trust and the hypotheses proposed in Chapter 2. Five pairs of measures were structured to compare scores of expectations of honesty, reliability, discretion, mutual benefits and reciprocation of favours from strong ties and weak ties. Another five pairs of item scores of strong ties and weak ties expecting honesty, reliability, discretion, mutual benefits and reciprocation of favours from participants were also compared. In addition, structural equation modelling was performed to examine which expectations influenced trust in strong and weak ties, and the notion of meta-trust. The key results showed that honesty, reliability and discretion influenced business executives' trust in their strong and weak ties, and also influenced how they perceived their ties' trust in them. However, the trust level between business executives and strong ties was higher than for weak ties. Further, it was found that business executives' expectations of their ties and their ties' expectations of them, as perceived by them, were correlated, supporting Deutsch's (1958) notion of mutual trust. Evidence of expectations of reciprocating honesty, reliability and discretion was not found. Implications of the findings were discussed. In particular, Blau's (1964) social exchange theory was questioned because of its limited applicability to business contexts. Moreover, the

reciprocal effect of expectations of trusting behaviours can be explored by using a different approach of considering implicit and explicit expectations communicated between actors.

## **Part B – Trust in Strongest Business Ties With and Without Friendship**

**Chapter Four** aims to explore what variables might predict interpersonal trust between UK business executives and their strongest business ties, and to compare predictors in their ties with and without friendship. Three direct predictors were posited to influence business executives' trust in their strongest business ties with and without friendship. They were Relationship Association, business value similarity and how often business executives have been let down. The construct of Relationship Association was proposed as an extension of Granovetter's (1973) measures of tie strength in order to reflect contents of strong business relationships that differed from those of close social relationships. By drawing on similarity-attraction theory, this thesis posited that sharing business values might be a significant predictor of trust in business ties, irrespective of whether or not there is friendship in the relationship. However, Relationship Association and levels of trust were predicted to be stronger between business executives and their strongest business ties with friendship than with strongest business ties without friendship. Furthermore, a review of literature concerning attitude (Kandel, 1978; Busch & Wilson, 1976; Nicholson, Compeau & Sethi, 2001), activity (Werner & Parmelee, 1979; Fink & Wild, 1995; Sprecher, 1998) and social environment similarity (Allan, 1989; Fehr, 1996; Shulman, 1975; Fischer et al., 1977) in friendship suggested that sharing similar interests might be conducive to the ongoing development of friendship, whether or not similar interests preceded

friendship. Similarly, shared environments such as work place or university would provide physical proximity facilitating the formation and development of friendship. Thus, common ground (sharing similar interests, education, and social environment at work, school or university) was postulated to be an additional predictor that influenced levels of trust in strongest business ties with friendship. Further, this thesis also posited that the effect of common ground on trust in ties with friendship would be mediated by the construct of Relationship Association.

**Chapter Five** presents a study to examine the antecedents of trust in strongest business ties with and without friendship, testing the hypotheses developed in Chapter 4. A number of measures relating to business values similarity were created based on iterative interviews with business executives, while other items were generated on the basis of a review of literature concerning homophily (Lazarsfeld & Merton, 1954), relational demography (Tsui & O'Reilly, 1989; Pelled & Xin, 2000), similarity and Granovetter's (1973) tie strength. The results confirmed that Relationship Association, how often business executives have been let down, and the sharing of perceived similarity in business values of ideas/visions and business principles were three direct predictors of trust in strongest business ties with friendship. Sharing a combination of common ground in similar education, social cultural environment in the past and hobbies/interests indirectly influenced the level of trust through two complete mediators of Relationship Association and similar business values. The more common ground shared between a dyad, the stronger the business relationship between them was found to be, and therefore the stronger the level of trust in the strongest business friendship ties.

However, findings observed for strongest business ties without friendship differed. In addition to Relationship Association, a combination of sharing common native tongue, cultural identity and business values directly predicted trust. The indirect effect of common ground was not significant for strongest business ties without friendship. These findings suggest that dyads in strongest business relationships shared less in common than relationships that contained friendship. The chapter concludes by discussing practical implications for building networks among business executives, and theoretical implications for investigating business tie strength and business friendship.

## **Part C – Business Trust Values: A Comparative Study of Business Executives in Southern England and Hong Kong**

**Chapter Six** seeks to investigate domains of trust values and develop a multidimensional scale of business trust for UK and HK business executives in conducting business transactions. Relationships between domains of trust values and individualism-collectivism (Hofstede, 1980) and independence-interdependence (Singles, 1994) were also explored. A rationale of four possible trust domains was developed by reviewing literature concerning reciprocation of favours (Redding, 1982; Bond & Hwang, 1986; Shariff & Lee, 1988), social networking in Chinese (Yeung & Tung, 1996), Zucker's (1986) process-based trust, characteristic-based trust and institution-based trust, law and contract (Lane & Bachmann, 1997), trust in uncertain situations (Heimer, 2001; Tyler, 2001), and business ethics (Stewart, 1995; Allinson, 1995; Dolecheck, 1992). The four posited trust domains were Reciprocation Trust, Institution-based trust, Discretionary Trust and Ethical Trust. Further, different factor

structures were predicted for the two countries under investigation: Discretionary Trust and Ethical Trust for UK business executives, and Discretionary Trust and Reciprocation of Favours for HK business executives. The domain of Institution-based trust was examined specifically for the UK. Further, It was suggested that UK business executives might have similar scores on Discretionary Trust to those of HK business executives. Moreover, a possible association between individualism-independence and the domain of Discretionary Trust in the HK group was predicted.

**Chapter Seven** presents a study to examine the two predicted factor structures between UK and HK business executives, the postulated relationship between individualism and Discretionary Trust, and concurrent validity of Discretionary Trust in the UK group. Items assessing business trust and cultural values were created on the basis of the literature review, qualitative interviews conducted in the UK and Shanghai, and Collett, Emler and Fielding's unpublished self-description inventory. The results confirmed the predicted factor structure in the UK group, but not in the HK group. Only Discretionary Trust emerged in the HK data. Reasons for the failure to recover a Reciprocation Trust Factor were considered. A business trust scale comprising of three different domains of Institution-based Trust, Discretionary Trust and Ethical Trust was developed. Because items of Institution-based Trust were not included in the HK questionnaire, the study provided no evidence concerning its relevance to this sample. In tests of concurrent validity of Discretionary Trust and Ethical Trust, it was found that Discretionary Trust values were highly correlated with expectation of strong ties being honest and reliable, but Ethical Trust values were negatively correlated with these expectations of both strong ties and weak ties. In conducting business dealings, UK business executives held a discerning trust attitude

in deciding whom they wanted to trust. It seems more plausible that Discretionary Trust would influence their trust expectations of honesty and reliability in their strong ties than the reversed causal relationship.

The results did not confirm the prediction of similar scores of Discretionary Trust in both groups. UK business executives scored significantly higher in Discretionary Trust than their HK counterparts. This suggested that UK business executives had a greater tendency to be discerning in deciding whom to trust and were possibly more risk averse than HK business executives. A correlation between individualism and Discretionary Trust among HK business executives, but not in the UK group, further revealed that the discerning trust attitudes of HK business executives were related to individualistic values, even though Hong Kong is a collectivistic society. Possible relationships between the trust domains and three other cultural dimensions: power-distance, uncertainty avoidance and masculinity-femininity (Hofstede, 1980) were also discussed as potential avenues for future research. The rationale for investigating Institution-based trust in HK in a future study was addressed. The theoretical implications of studying trust in contexts of business dealings that differ from contexts of trust between superiors and subordinates were highlighted. The chapter concludes by discussing practical implications for UK business executives to respond to the grey area of business ethics that may arise in cross-border business dealings between the UK and HK.

**Chapter Eight** integrates the key findings of this thesis and evaluates their contributions to the understanding of interpersonal trust in business relationships. Because of its exploratory nature, the theoretical and methodological aims of the

thesis were revisited in order to assess aspects of the aims that were met or not met. The limitation of the present sample sizes at around 100 was discussed. Three strategies were identified for future studies. They included a minimum number of 4 indicators per factor (March et al., 1998). The chapter also discusses cultural implications for the formation of trust among business people in the UK and China. For example, common ground may be orientated towards sharing different similarities, such as kinship, and hometown, called guanxi bases (Tsui, Xin & Cheng, 1998).

In spite of its limitations, research achievements in the new investigations of the trust models and the business trust scale were summarised. The chapter concludes by proposing future research directions that could solve certain outstanding questions, and also open up new areas of investigation. In particular, the content of strongest business friendship may differ from close social friendship. Because of differences in the composition of men's and women's strongest ties, gender effects on trust should be investigated. Finally, the present research on interpersonal trust models in the UK should have shed some light on future research on trust models in China.

### Overall Introduction

Several researchers see trust as critical to human existence and essential to the effective functioning of relationships on all levels: individuals, dyads, groups, organisations and nations (Erikson, 1963; Rotter, 1967; Wrightsman, 1974; Fehr, 1988). Rotter (1967, 1971) and Wrightsman (1974, 1992) described trust as a generalised expectancy that other people are reliable and honest, thereby minimising uncertainty. Within communities, trust promotes cooperation, maintains social order and encourages long-term exchanges (Cook & Cooper, 2003; Simpson, in press). In exchanges between individuals or organisations, the existence of trust manages uncertainty and risks underlying exchanges (e.g. Kellock, 1994).

Theoretical foundations of trust have been analysed at three different conceptual levels: distal (ultimate), ontogeny, and proximal causation (e.g. Sherman, 1988). The distal analyses address the influence of human selection on trust in evolutionary perspectives, whereas developmental processes across the lifespan of individuals in current time give ontogenetic explanation of trust. Neither distal nor ontogeny causation of trust is the focus of this thesis. However, the approach of proximal causation is central to the research on the antecedents of trust in this thesis. Simpson (in press) has made an excellent account of this topic. Each level of analysis is summarised below before an explanation of the present research is presented.

Theories in evolutionary psychology argue that at the distal level of analysis, the capacity to trust others who were or were not biologically related in the same tribe was explained by traditional genetic evolutionary models. In the early years of

## Chapter 1

humans' existence as hunters and gatherers, most tribe members were biologically related (Foley, 1987). Encountering complete strangers was rare, except during intertribal war or trading (Wright, 1994). For survival, learning to cooperate in hunting with other tribe members who were both kin and non-kin was compulsory. Reciprocal altruism existed between two biologically unrelated individuals when they allowed each other to gain mutual benefits (Trivers, 1971). As tit-for-tat<sup>1</sup> exchanges persisted among those ancestors who recognised this survival strategy, they developed cognitive abilities to judge when trust was warranted in cooperative behaviours, or when trust was violated in non-cooperative exchanges. Over time, genes of those who cooperated with non-kin could have been selected through evolution of humans (Simpson, in press).

At the ontogenetic level, how a particular behaviour or trait develops and changes across the lifespan is addressed. It has been argued that early social experiences in childhood influence individuals' tendency to develop trusting versus distrusting relationships in adulthood (Erikson, 1963). For example, children who have positive and satisfactory experiences in interacting with others gain confidence in building relationships with others in adulthood, whereas those who experience conflicts and betrayal become distrustful (Erikson, 1963). According to this analysis, trust serves as the basis of personality and social development (Simpson, in press). Researchers such as Bowen (1976, 1978) have adopted this lifespan perspective to explain the

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<sup>1</sup> In a 2-person interaction, tit-for-tat calls for a strategy for each person to consider making cooperative or non-cooperative moves. When an opponent has cooperated on the previous move, the other would cooperate on the next move. However, if the opponent chooses to defect, the other defects too. Whoever makes the first non-cooperative move tends to be perceived by the other as aggressive or exploitative. There is mutual gain when both make cooperative moves. Tit-for-tat induces cooperation. (Axelrod, 1984).

## Chapter 1

development of dyadic (interpersonal) trust, whereas Belsky, Steinberg and Draper (1991) explored some developmental antecedents of dispositional (individualistic) trust. These two conceptualisations of trust, dispositional and dyadic trust, will be elaborated later in the text.

At the proximal level, specific stimuli, situations or events in the current environment that influence the extent that people trust others at certain points in relationships are examined. Various theories and models have examined proximal factors that influence the development of trust in relationships. For example, based on the interdependence theory (Kelly & Thibaut, 1978), Kelly et al. (2003) identified four trust situations in an exchange between two partners: (1) both partners cooperated and received equal benefits; (2) neither partners cooperated and received no benefits; (3) partner A chose to cooperate but partner B defaulted causing unfair benefits received; and (4) the reverse of pattern of (3). These trust situations pose problems to both partners in selecting either cooperative or non-cooperative choices. The question is whether both partners can trust each other to make cooperative moves and jointly get tasks accomplished. In fact, these trust situations are very similar to those faced by the 2-person prisoner dilemma games in which the desirable move is to remain cooperative as long as the other partner continues to make cooperative choices (Axelrod, 1984).

Another examination of proximal causes of trust is found in Holmes and Rempel's (1989) study. In studying close relationships, the researchers posit that the development of trust at early stages of relationships involves a process of uncertainty reduction as each partner learns the other's values, motives, goals and intentions. The

## Chapter 1

researchers suggest that as dependency on each other increases, and each partner's involvement becomes reciprocal and balanced, their equal and mutual involvement produces higher level of trust.

Deutsch (1973), one of the founders of trust research (e.g. Deutsch, 1958), demonstrated further proximal conditions for trust, including that of liking. In his conception, trust is based on the expectation that one will find what is expected rather than what is feared about others' underlying intentions and needs (Deutsch, 1949, 1958, 1960, 1973). He posited that individuals are likely to infer positive intentions when they believe others like them (Deutsch, 1973). In turn, an individual's perception of his/her partner's positive intentions or motivations to perform a future action or behaviour in a desired event would strengthen trust in the relationship. These kinds of proximal processes are compatible with the causal approach adopted in the present thesis.

### Dispositional and Dyadic Trust

Earlier in the text, dispositional and dyadic trust was briefly mentioned. These two conceptions of trust are further examined here. There is a diversity of interpretations of trust from different approaches and with different methods in the disciplines of sociology, psychology, management, anthropology, philosophy and economics. In psychology, some earlier researchers conceptualised trust from a dispositional (individualistic) perspective on human nature (e.g. Rotter, 1971; Sato, 1988; Wrightsman, 1991, 1992). They viewed trust as generalised beliefs and attitudes about other people who were likely to be cooperative, or reliable irrespective of contexts or

## Chapter 1

situations. Rotter (1967) developed scales of generalised (dispositional) trust to identify differences between people who were more versus less trusting of others in general. Other measures such as the Machiavellianism<sup>2</sup> Scale (Christie & Geis, 1970) and Philosophies of Human Nature Scales (Wrightsman, 1974) were developed to differentiate individuals who had a more collective and kinder views of others from those who were more individualistic and sceptical perceptions of others. (Simpson, in press).

However, trust is the vital basis for the development of any relationships. In the early 1980s, this dispositional perspective progressed to a dyadic (interpersonal) conceptualisation of trust, particularly measuring trust between friends (Fehr, 1996), romantic partners (Rempel, Holmes & Zanna, 1985; Larzelere & Huston, 1980), or superiors and subordinates (Butler & Cantrell, 1984). In dyadic trust, Hardin (2003) summarised its dyadic and context-specific property as “*I trust you to do X*”. From this perspective, trust is, therefore, “a function of properties and characteristics of the self (I), the specific partner with whom one is interacting (you), and the unique features, requirements, or constraints of the current situation (to do X)” (Simpson, in press). Behaviours of X vary widely even in the same context. For example, some individuals in close relationships may define X as a combination of behaviours such as to be honest, to be respectful, to be faithful, and so forth. However, some others may trust their partners given a specific behaviour such as to be honest, or to be

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<sup>2</sup> Machiavellianism is a personality trait of individuals who seek to achieve self-interest goals irrespective of morality. In Christie and Geis’s (1970) scale, high scorers (high Machs) were found to be consistently more successful than low Machs in winning points in coalition games. Low Machs were apparently hindered by moral feelings that refrained them from making profitable agreements. However, high Machs behaved like individualists and adopted whatever approach that would offer them the most reward.

## Chapter 1

respectful, but not both (Simpson, in press). Thus, the construct of trust becomes multifaceted and complex for operationalisation.

When relationships are interdependent, this further complicates operationalisation. For example, by referencing to Interdependence Theory (Thibaut & Kelley, 1959; Kelley & Thibaut, 1978), researchers such as Holmes and Rempel (1989) and Rempel et al. (2001) empirically demonstrated differences in how partners involved in high, medium, or low trust relationships responded to negative relationship experiences in situations such as conflicts and threats. When resolving conflicts, high trust individuals tend to show more positive affect and evaluations of their partners than medium or low trust individuals.

Given the description of dispositional and dyadic trust above, the present thesis focuses on measures of dyadic trust instead of dispositional trust in business relationships outside organisations. Strong business relationships would be interdependent, which will be examined in the thesis. An example of business relationships would be a business owner (I) trusts his/her business associates (you) to be honest in business dealings, and X relates to behaviours in the context of doing business with each other, following Hardin's (2003) three components of the dyadic trust function.

### Trust in Business Relationships

Why is trust important in business relationships? With an increasingly integrated global economy, there is a demand of cross-cultural understanding of similarities and

## Chapter 1

differences in the psychology of interpersonal trust among executives within their social networks in business dealings. Understanding of what factors influence interpersonal trust between business people and their social network contacts within a single society represents an initial step towards the goal of establishing similarities and differences across cultures.

Interpersonal trust in relationships has been studied in the context of close relationships among partners (Larzelere & Huston, 1980; Johnson-George & Swap, 1982; Rempel, Holmes & Zanna, 1985; Holmes, 1991; Boon & Holmes, 1991). From the perspective of marketing, Nicholson, Compeau and Sethi (2001), and Donny and Cannon (1997) are two studies that examine antecedents of trust in buyer-seller relationship and provide useful insights and understanding of trust. In management, researchers such as Gabarro (1978), Butler and Cantrell (1984), Butler (1991) and Mayer et al. (1995) explored conditions or factors of trust between superiors and subordinates within organisations. However, in the field of psychology, interpersonal trust has never been empirically studied in the context of social network relationships in business.

In spite of a lack of past research studies of interpersonal trust in business relations, trust conceptions can be drawn from the discipline of sociology. This thesis uses Zucker's (1986) theoretical notion of trust production as an initial framework for expanding trust conceptions by including other orientations to be drawn from other researchers. Zucker's (1986) extensive study of three modes of trust production was based on a review of the conditions under which institutional trust emerged at the time of high rates of immigration, internal migration and instability of business enterprises

## Chapter 1

from the mid-1800s to early 1900s in the U.S. The three modes of trust production are: (a) process-based trust, where trust is tied to past or expected future exchange such as in reputation or gift-exchange; (2) characteristic-based trust, where trust is tied to a person, depending on characteristics such as family background or ethnicity; and (3) institution-based trust, where trust is tied to formal societal structures, depending on individual or firm-specific attributes (e.g. certification as an accountant) or intermediary mechanisms (e.g. third party insurance in transactions). Moreover, Zucker (1986) defines trust as a set of expectations shared by all those involved in an exchange. This thesis expands Zucker's definition of trust, and examines fundamental expectations that influence interpersonal trust in network contacts. This forms the basis for the first study. Furthermore, the notion of characteristic-based trust suggests that types of characteristics shared between two actors in business relationships may predict trust of trustors in their trustees. This forms the basis for the second study. Since trust is a complex topic, this thesis focuses on these two aspects of interpersonal trust that are relevant to network contacts of business people.

Moreover, trust values may be culturally embedded. Business behaviours perceived to be acceptable in one country could be perceived to be unethical or immoral in another country (Stewart 1995). The potential for misunderstanding based on different expectations is therefore greater when business relationships cross cultural boundaries. In the discipline of management, Stewart and Donleavy (1995) give a qualitative review of business values and cross-cultural perspectives in some Asian countries including Hong Kong. However, in psychology, there have been no empirical research studies that explore business trust values among business executives in England and Hong Kong. Thus, this thesis also focuses on underlying

## Chapter 1

trust values that executives hold in their business transactions outside organisations in the UK and Hong Kong, and development of a business trust scale. Further, Hong Kong was chosen for comparison with the UK for two reasons. First, there are social network structures in Hong Kong where executives can form network contacts, and that they are similar to ways that English executives network. Second, in cross-cultural comparative studies, the culture of Hong Kong has been regarded as collectivistic (Hofstede, 1980), which is on the opposite continuum of the individualistic culture such as that of England. Even though researchers such as Triandis et al. (1990), and Kim et al. (1994) challenged the simplicity of the dichotomy by proposing co-existence of collectivism and individualism in a culture, the operationalisation of individualism and collectivism on a bipolar continuum allowed the present research to examine effects of culture on trust values.

Therefore, there are in total three topics of trust to be explored. This thesis is divided into three parts: A, B and C. Three studies are respectively designed to address research questions about, meanings of trust, what factors may influence interpersonal trust between executives in different organisations within their social networks in southern England, and to compare business trust values between executives in the UK and HK. The purpose of the present introduction chapter is to introduce readers to the individual topics in the following section. A more detailed literature review of each topic and relevant research questions are presented separately at the beginning of Part A, B and C. The concepts of entrepreneurship and network ties, the theoretical and methodological aims of the thesis will be presented later in this chapter.

## Chapter 1

Furthermore, this thesis focuses on small business owners and senior executives (such as bankers, accountants and lawyers) who network regularly at, namely breakfast clubs and business dinners organised by professional institutions such as Federation of Small Businesses, various Breakfast Clubs, Business Network International and Business Exchange Referral in southern England. In this thesis, the term “*business executives*” is used to refer to these executives or business people.

### 1.1. Three Topics of Trust

Trust has been discussed in many different ways. In this section, I consider two different ways of conceptualising trust that provide the basis for two studies of trust presented in this thesis. These studies examine trust in the context of business relationships in social networks. The third topic of trust explores a business trust scale that measures factors of trust values that are relevant to UK and HK business executives in business dealings. Below is an introduction to conceptualisations of two aspects of trust and business trust values as discussed mainly by sociologists and psychologists.

***Trust as Expectations.*** The first formulation sees trust as an expectation. For example, Barber (1983) defines trust in terms of the content of the expectations that social actors have of one another. Similarly, Zucker (1986) defines trust as a set of expectations shared by all those involved in an exchange. Hardin (2002) sees these expectations as arising from interest: “ I trust you because I think it is in your interest to take my interests in the relevant matter seriously ... You value the continuation of our relationship, and you therefore have your own interests in taking my interests into

## Chapter 1

account... Any expectations I have are grounded in an understanding (perhaps mistaken) of your interests specifically with respect to me.” (p. 1). For many trust relationships, there are other considerations beyond monetary benefits that are the incentive to sustain the relationship. For example, they are the favours that the parties do for each other and the mutual supports giving to each other (Hardin 2002). In this sense, two parties (or actors) engaged in an exchange relationship have an interest in fulfilling each other’s expectation and thereby trust.

In fulfilling each other’s expectations, there may be an element of reciprocity of trust. Very few researchers have studied the notion of reciprocity of trust. An early study by Zand (1972) suggested that one person’s trust in another strongly influences the other’s trust in that person. The experiment involved groups of managers who discussed solutions to some business problems in a thirty-minute meeting in the context of a management development program. Half of the groups were briefed to expect trusting behaviours and the other half to expect untrusting behaviours. Results showed that the managers’ rating of level of trust in a management team as a result of the meeting was higher when trusting rather than untrusting behaviour was expected. Moreover, the managers said in the debriefing interviews that “after their meeting had started, their level of trust varied in response to the behaviours of the other managers” (Zand, 1972, p. 236).

Butler (1983, 1986) further studied reciprocity of trust in dyads between professionals and their secretaries, and in close male-female relationships. Both studies show that trust is reciprocal. For example, secretaries’ trust in their bosses directly influences bosses’ trust in their secretaries. Similarly, bosses’ trust in their secretaries has a

## Chapter 1

significant effect on secretaries' trust in their bosses (Butler, 1983). The same reciprocal effect was found between woman's trust in the man and man's trust in the woman in close male-female relationships (Butler, 1986).

Furthermore, Larson (1992) shows a back-and-forth motion of reciprocity of trusting behaviours in relationships between organisations in a case study of seven highly cooperative inter-firm alliances. It was noted that "reciprocity became an unwritten rule. If one side extended itself in a special effort to deliver on a promise, the other side responded in kind at the next opportunity...A cycle of reciprocity and mutual gain had begun" (Larson, 1992, p. 90). If trust is reciprocal in dyadic relationships, we may predict that expectations of trusting behaviours may be reciprocal too. This anticipation forms one of the research questions. Among other expectations, this thesis also examines expectations of reciprocity of trusting behaviours in a business context.

Based on this first conception of trust, Part A of this thesis examines what trust means between business executives and their strong and weak relationships. The study explores expectations of trusting behaviours to be fulfilled by them. A more detailed account of this conception is presented in the literature review of Part A.

***Characteristic-based Trust.*** A second orientation toward trust suggests that trust is dependent on characteristics of the trusted person (Zucker, 1986). The first study referred to above will offer an understanding of meanings of trust as expectations of trusting behaviours in strong and weak business relationships. However, the focus of the second study is to explore factors that influence trust of business executives in

## Chapter 1

their strongest business relationships. One of the factors to be examined in the second study is characteristic-based trust.

To my knowledge, there have been no empirical studies of characteristic-based trust by psychologists, but studies on homophily (defined as “the principle that a contact between similar people occurs at a higher rate than among dissimilar people”(McPherson, Smith-Lovin & Cook, 2001, p. 416)) by sociologists are numerous. They study how the homophily principle affects network ties of every type, including friendship, work, marriage, and so forth. In this sense, similarity breeds connection (McPherson, Smith-Lovin & Cook, 2001). For example, an early study by Lazarsfeld and Merton (1954) of the three closest friends of residents in “Hilltown” and “Craftown”<sup>3</sup> showed that same race and gender were the predominant similarities whereas similarities in educational status was least important in each community. However, the degree of selectivity differed between the two communities. The more cohesive community members of Craftown tended to select closest friends who shared acquired statuses, resulting from the individual’s own choice or achievement, as well as ascribed statuses such as race and age, which were fixed at birth. In the bi-racial community of Hilltown, selectivity was more in terms of ascribed statuses.

In business contexts, Aldrich et al. (1989, 1997) found that men tended to have more gender-homophilous networks than women did. However, women appeared to have cross-gender networks, dealing with mostly men and a high proportion of women.

Thus, there was a gender bias in the composition of the women’s networks. In

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<sup>3</sup> Hilltown and Craftown were two housing communities. Hilltown was a bi-racial low-rent project of about eight hundred families in western Pennsylvania, and Craftown was a project of about seven

## Chapter 1

workgroup relations, Ammeter's (2001) longitudinal study showed that ethnic (or race) similarity was the only demographic similarity that determines initial evaluations of trust between members of a MBA project team. Overtime, social contact, perceptions of ability, and perceptions of value orientation had a positive effect on evaluations of trust. Thus, the effect of similarities in ascribed characteristics (such as race and gender) or acquired characteristics may differ in different contexts. This thesis aims to examine what shared similarities are antecedents of trust in dyadic business relationships.

In psychology, most of the relevant studies concentrate on value or personality similarities. An early study by Richardson (1940) demonstrated the influence of similar value patterns (measured by the Allport-Vernon's Study of Values, Vernon & Allport, 1931) in the formation of friendship between adult women. Jones, Couch and Scott (1997) interpret Rotter's (1967) interpersonal trust as 'generalised trust'. They suggest that "generalised trust is circumscribed by social identity; that is, one trusts people in general so long as they are in some way similar to oneself, for example, like-minded or belong to the same group, nationality, or race" (Jones et al. 1997, p. 470).

In general, when asked whom we trust in various ways, we would typically name certain relatives, friends and close associates. It is generally those with whom we have ongoing trusting relationships. The richer an ongoing relationship and the more valuable the relationship is to us, the more trusting we are likely to be in that

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hundred families in New Jersey. The eliciting question was to designate three closest friends, whether they lived in Hilltown (Craftown) or not.

## Chapter 1

relationship (Hardin, 2002). Aldrich et al. (1997) suggest that strong tie<sup>4</sup> networks are critical to the success of small business. The terminology of strong tie network will be discussed in the following section. There have been no studies that allow us to understand similarity of dyadic relations between business executives and their strongest ties. Therefore, the second experiment in this thesis aims to explore what could be the similarities shared between them that may produce trust in the strongest business ties. The similarities that are of particular interest in this thesis are ascribed and acquired characteristics, business values, and attitudes about social networking.

Moreover, friendship is valued in a form of reciprocity of dependability, caring, commitment and trust (Tesch & Martin, 1983). We may expect that trust may differ between a business friendship tie and a business tie without friendship. A more detailed literature review will be presented in Part B of this thesis in order to explore influences on trust of business executives in their strongest ties, comparing in particular the strongest business ties with and without friendship.

***Measuring Trust as a Factor Scale.*** The two studies introduced above will measure trust as a single variable. The third study will explore trust as a multidimensional scale as factors of trust values among business executives in business dealings.

When the other person is perceived as untrustworthy, there is uncertainty about what he or she will do, leading to a sense of vulnerability. Heimer (2001) asserts that uncertainty and vulnerability are the core elements of trust relations. She analysed these problems of trust using the scenario of women between 1940s and 1960s who

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<sup>4</sup> “Strong ties” is termed by Granovetter (1973, 1982). They are relationships with frequent contacts

## Chapter 1

sought illegal abortions. The women were faced with the risk of death or bad health when the competence and trustworthiness of abortionists, who operated outside the law, might not be trusted. The abortionists would face legal sanctions such as prison terms and threats to their jobs and reputations. Participants in this scenario were both uncertain and vulnerable.

Parties to business relationships are similarly vulnerable. Some people may be motivated to take advantage when the interests of the parties do not coincide. In Kollock's (1994, p. 318) experiment, which simulated transactions between buyers and sellers, one of the findings suggests that when faced with "a situation in which one can be taken advantage of, the natural response is to restrict one's transactions to those who have shown themselves to be trustworthy". Ring and Van de Ven (1992) suggest that because of risk in transactions, trustors must be concerned with the trustworthiness of trustees. This thesis posits that people may tend to be discerning in deciding with whom to conduct business dealings. They may choose others whom they believe to be honest. This is the starting premise that this thesis posits a domain of business trust values in the context of business dealings.

In reality, people in one culture may attempt to impose their values on people in another culture. What is being viewed right and wrong, honesty and cheating would be agreed differently among business people from different cultures (Stewart, 1995). Projection of own values to others invariably creates miscommunication and misunderstanding in business dealings. Thus, trust attitudes towards questionable business practices is another facet of trust values that this thesis aims to explore.

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such as close "business associates" and close "friends". This topic is covered in following section.

Further, the role of culture in influencing trust values has not been explored in past research. As mentioned earlier, trust values may be culturally embedded. For example, Yamagishi and Yamagishi (1994) suggested that the individualistic culture explained the more trusting attitudes towards people in general in the US than in Japan. There is scope to investigate whether Hofstede' (1980) cultural dimension of individualism-collectivism has an effect on business trust values in the UK and HK.

Therefore, this thesis attempts to examine the area of trust values with an aim of developing an exploratory business trust scale, comparing trust values in both countries, and exploring cultural effects on trust values. A more detailed literature review will be presented in Part C of this thesis in order to develop a conceptual framework for a business trust scale.

### 1.2 Entrepreneurship and Network Ties

At the beginning of this chapter, the need for understanding interpersonal trust of business executives in business relationships within their social networks was highlighted. The present section introduces the topic of entrepreneurship through social networks and typologies of network ties that are relevant to Part A and Part B of the thesis. The aim is to explain the rationale of exploring dyadic trust in network ties with whom business executives network. First, this thesis investigates “business executives”, who are small business owners, managers or partners with professions as bankers, lawyers and accountants, rather than entrepreneurs as defined by Carland et al.'s (1984, p. 358) below:

## Chapter 1

“An entrepreneur is an individual who establishes and manages a business for the principal purpose of profit and growth. The entrepreneur is characterised principally by innovative behaviour and will employ strategic management practices in the business”

However, “a small business owner is an individual who establishes and manages a business for the principal purpose of furthering personal goals. The business must be the primary source of income and will consume the majority of one’s time and resources. The owner perceives the business as an extension of his or her personality, intricately bound with family needs and desires” (Carland et al., 1984, p. 358).

This thesis originally set out to study the trust values of entrepreneurs in southern England. However, it proved to be impractical to recruit them as experimental subjects when personal introduction to individual entrepreneurs was required. It was subsequently found that the most effective way to recruit subjects was to promote the current research topic to business people who attended breakfast clubs or business dinners in the areas within reasonable driving distance of Oxford. The subjects were small business owners, mostly solo-self-employed, and senior executives who were managers or partners working at banks, or small-medium size accountancy or legal firms. They were active in networking at breakfast clubs and business dinners.

Although they did not fit the definition of entrepreneurs offered above, it does not mean that entrepreneurship spirit is lacking among them. Granovetter (1985), Aldrich and Zimmer (1986) and Dunini and Aldrich (1991) offer an understanding of entrepreneurship from the perspective of social networks.

*Entrepreneurship through Social Networks*. Granovetter (1985) suggests that “social relations, rather than institutional arrangements<sup>5</sup> or generalised morality<sup>6</sup>, are mainly responsible for the production of trust in economic life” (p. 491). In his analysis, the embeddedness of ongoing social relations in networks generates standards of expected behaviours, and thereby trust, and discourage misconduct. He further explains that “even with complex transactions, a high level of order can often be found in the market – that is across firm boundaries... Small firms in a market setting may persist because a dense network of social relations is overlaid on the business relations connecting such firms and reduces pressures for integration” (p. 502, 507).

Granovetter’s (1985) insight into the embeddedness of social relations in networks was a major influence on research in the study of entrepreneurship. Traditional views of entrepreneurship emphasised psychological and economic models, and social-cultural aspects of entrepreneurs. Aldrich and Zimmer (1986) summarised the deficiencies of each model and proposed to view entrepreneurship “as embedded in networks of continuing social relations” (p. 8). “A great advantage would be an ability to mobilise resources to pursue opportunities. Such action requires entrepreneurial contacts, knowledge, confidence, and also involves asking others to raise money, human resources, and effort for a venture. Entrepreneurship is thus inherently a networking activity” (Dubini & Aldrich 1991, p.306). In this sense, the studies in Part A and Part B of this thesis address trust between business executives and their entrepreneurial network contacts.

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<sup>5</sup> Institutional arrangements are mainly elaborate explicit or implicit contracts (Okun, 1981).

<sup>6</sup> Arrow (1974) suggests that societies “in their evolution have developed implicit agreements to certain kinds of regard for others, agreements which are essential to the survival of the society or at least contribute greatly to the efficiency of its working” (p. 26).

## Chapter 1

*Personal Network, Strong Ties and Weak Ties.* There are various network typologies that exist in the field of social networks. Below is a summary of the key typologies that are relevant to the thesis topic.

As Dubini and Aldrich (1991) point out, “the starting point for studying entrepreneurship through networks is a relation or transaction between two people. Relations between pairs of individuals – entrepreneurs, customers, suppliers, creditors, investors” (p. 306). In this sense, an entrepreneur (including small business owners and senior executives) could have direct relations with strategic alliance partners, co-owners or partners of the firm, suppliers, customers, venture capitalists, investors, bankers, distributors, friends and/ or family members to form his or her personal network. Some researchers such as Blau et al. (1991) have adopted the typology of ego-centred network. That is the “ego<sup>7</sup>” is the focal person of his/her ego-centred network (personal network) and the “alters” are his/her associates in the network.

Further, a relation may be considered as either strong or weak, with frequent contacts such as close “friends” or close “business associates” called strong ties, and “infrequent contacts” such as “acquaintances” called weak ties (Granovetter, 1973, 1982). “Strong ties carry with them a history of past dealings in or out of a business setting that can form a basis for trust” (Aldrich & Zimmer, 1986). If individuals only interact with strong ties, with whom they have gained enough experience to grant trust, their business world will be too narrowly circumscribed. “In their everyday business dealings, owners must go beyond their personal networks and interact with

## Chapter 1

strangers or mere acquaintances” (Staber & Aldrich, 1995, p.464). Granovetter’s assertion of the strength of weak ties summaries that “the weak tie between ego and his/her acquaintance becomes not merely a trivial bridge between two densely<sup>8</sup> knit clumps of close friends... It follows that individuals with few weak ties will be deprived of information from distance parts of the social system and will be confined to the provincial news and views of their close friends.” (Granovetter, 1982, p. 106).

The current thesis focuses on the *core* personal networks of business executives, who have strong ties inside the core, and weak ties outside the core personal network. In this thesis, strong ties are defined as the people with whom the participant has a strong or close relationship in business contexts, such as business co-owners, key customers, key suppliers, strategic alliance partners, friends or relatives. Weak ties are defined as the people known directly by the participant but with whom the relationship is more distant, i.e. where business encounters are more peripheral in nature.

While consensus exists on networks being organised sets of relationships, there is less agreement on the different types of networks that exist. Hence, there are various network typologies proposed by researchers depending on the context of their studies. Although other typologies are not the focus of the present thesis, it is worthwhile to point out the key terminology so that we can be clear about the typology of personal networks. For example, Birley (1985) uses the differentiation of formal and informal networks to study the entrepreneurial process of entrepreneurs starting a new firm.

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<sup>7</sup> The meaning of an “ego” in social networks does not refer to the meaning of one’s ego as a sense of self.

<sup>8</sup> Granovetter (1982) suggests that close friends (strong ties) are more likely to be socially involved with one another and that the personal network consists of strong ties will be densely knit (i.e. many of the relational lines connecting one another).

## Chapter 1

The formal network “includes all the local, state, and Federal agencies such as banks, accountants, lawyers, realtors, Chamber of Commerce, which offer help to new firms as part of their service...The informal network includes family, friends, previous colleagues, or previous employers, a group which is more likely to listen and to give advice” (Birley, 1985, p. 109). Johannisson (1987) presents three network types. They are production networks that link within and between trading organisations relating to transactions and contracts; personal networks of ad hoc friendship ties that are based on trust; and symbolic networks formed by social bonds based on community ties and conformity to collective values. Moreover, Mitchell (1973) offers the typology of exchange network, communication network and social network, taking account of the social and interorganisational dimensions of network analysis that Szarka (1990) adopts in his study of small business networks. The exchange network is defined as the companies and organisations with which the (small) firm has commercial transactions. In Johannisson’s term (1987), this is the production network. The communication network is the collective of consultants, advisors, local and central government and its agents that have non-trading links with the firm but official and semi-official information flows in the network. The social network is formed by family, friends and acquaintances. The communication network is the same as Birley’s (1985) formal network and that the social network is the same as Birley’s informal network (Szarka, 1990). This thesis uses the typology of social network, which includes business and personal relationships.

### 1.3 The Present Research

Having introduced the relevance of entrepreneurship through social network and network ties to the present thesis, I present below a brief outline of the three studies in this thesis.

Earlier in Section 1.1, the concepts of trust as expectations and reciprocity of trust were briefly introduced. The purpose of the first study is to explore the fundamental expectations that may have a direct influence on trust formation between business executives and their strong and weak ties. Further, the study also explores whether there is a norm of reciprocity that serves as a mechanism to motivate two actors to reciprocate expectations of trusting behaviours to each other that are beyond the mutual obligation to reciprocate merely benefits in an exchange. A number of research questions will be raised in the course of reviewing various relevant concepts in this topic in the next chapter. A theoretical model of interpersonal trust between business executives and their strong and weak ties will be suggested for testing. The model depicts reciprocity of expectation of trusting behaviours, and types of expectations that will predict trust in their strong and weak ties. Empirical results will be presented in Chapter 3 in order to examine the hypotheses suggested.

The second study is an attempt to explore which similarities shared between business executives and their strongest ties influence business executives' trust in their ties, in particular comparing their strongest business ties with and without friendship. The similarities to be examined relate to business values, common ground including

## Chapter 1

ascribed or acquired characteristics. Part B of the thesis begins with a review of the literature concerning relationship strength, similarity and attraction, friendship and their associations with trust in order to explore the possible antecedents of trust other than similarities in characteristics and business values. This study collected data from business executives reporting on characteristics of their three strongest ties.

The first and second studies are theoretically based and derive from reviews of the relevant literature. Given a lack of previous studies, the third study is more of an exploratory study examining factors of business trust values in southern England and HK. In this study, I also attempt to develop a multidimensional business trust scale, and examine cultural effects of individualism-collectivism on trust values in both groups. Part C of the thesis will begin with a proposal of four domains of trust values, and a rationale of which domains will respectively emerge in factor analyses in the UK and HK.

A multi-method approach to explore the conceptions and antecedents of interpersonal trust was adopted. Qualitative semi-structured interviews with senior executives and business owners in southern England and China were combined with quantitative surveys for empirical operationalisations.

### 1.4 Aims of the Thesis

There are six aims with which this thesis is concerned as a guide of the focus:

## Chapter 1

- (1) To develop psychological models of interpersonal trust in strong business ties and weak business ties.
- (2) To develop psychological models of interpersonal trust in strongest business ties with and without friendship.
- (3) To develop a scale measuring business trust in the context of UK and HK business dealings.
- (4) To develop studies incorporating independent and dependent variables that had not been studied in past research.
- (5) To examine a number of predictors of trust simultaneously by using structural equation modelling.
- (6) To sample business executives who regularly network at business networking meetings.

These aims will be revisited in the final chapter. Please note that conceptual framework of model evaluation in structural equation modeling is outlined in Section 3.2.2 of Chapter 3, and interpretation of AMOS output figures is provided in Appendix A under A.7. Appendix D outlines the most commonly used fit indexes in structural equation modeling. Readers may need to refer to the appendices when the results of the studies presented in Part A, B and C are read.

**PART A**

**TRUST AS EXPECTATIONS IN STRONG AND WEAK TIES**

**Literature Review and a Theoretical Model of Trust**

Chapter 1 introduced a conception of trust as a set of expectations shared by all those involved in an exchange, and the notion of reciprocity of trust. The present chapter is a literature review of the key concepts relating to expectations of trust between actors involved in an exchange. These are concepts drawn mainly from psychology, sociology and minimally from management. Relevant research questions are raised as the literature review proceeds, and a theoretical model of trust as expectations between business executives and their strong ties and weak ties will be proposed later in the chapter. A notion of meta-trust to signify a meta-cognitive process underlying reciprocity of trust will be proposed.

This chapter has ten sections. First, the basic framework of social exchange and its relationship with trust are introduced. Second, the concepts of negotiated and reciprocal exchanges are distinguished, and their relevance to the present study is discussed. Third, a more detailed account of the conception of trust as expectations is presented to extend the earlier coverage in Section 1.1 of the general introduction. The fourth section reviews what bases of trust have been researched. Fundamental expectations between business executives and their strong and weak ties are explored. Next, the meaning of the norm of reciprocity is examined before proposing an extended formulation intended to incorporate reciprocity in trusting behaviours between actors. In the sixth section, a theoretical model of trust will be proposed by

incorporating a notion of meta-trust. The seventh section addresses questions concerning whether different trust models are applicable to strong and weak relationships. Then, Zucker's (1986) definition of trust will be re-defined in the context of the present study. The relevance of the psychology of morality to the theoretical model of trust will be discussed. The final section summarises the hypotheses to be examined in the following chapter.

### 2.1 Social Exchange and Trust

Within an ego's personal network, the ego and his/her alter in a two-actor relationship would have some kinds of social exchange whether ongoing or on an ad hoc basis.

The premise of investigating a theoretical model of trust between business executives and their strong and weak ties begins with Blau's (1964) social exchange theory, and Emerson's (1981) further classification of exchanges into negotiated and reciprocal exchanges. The concept of social exchange and the idea that trust seems to be a major function of social exchange are introduced in this section.

Social exchange theory studies how the relations between actors are created by the benefits and costs they provide for one another (Blau, 1964, 1968; Emerson, 1972a, 1972b; Homans, 1974). The basic assumption is that people have needs, such as love, social support, recognition, status, wealth, etc. that can only be met in interaction with others. To satisfy these needs requires social exchange. Thus, people associate with others in order to obtain the rewards engendered by need satisfaction. In such associations, rewards may be intrinsic to the association itself, as in love and other emotional satisfaction, or extrinsic, such as advice or help from a friend (Blau, 1968).

## Chapter 2

Blau (1964, p. 89) offers the basic principles underlying the conception of exchange, “an individual who supplies rewarding services to another obligates him. To discharge this obligation, the second must furnish benefits to the first in turn”.

The simplest form of social exchange involves two actors (dyads), A and B, each of whom possesses at least one resource<sup>2</sup> that the other values. The mutual exchange of benefits between A and B is called a transaction. An ongoing series of transactions between members of the same dyad establishes an exchange relation. When exchange relations are connected to one another, dyadic relations as individual units form larger exchange networks of varying size and complexity (Emerson, 1972b).

Thibaut and Kelly (1959), Homans (1974), Blau (1964, 1968) and Emerson (1972 a, 1972b) were the main writers to develop theories of exchange. Although they approached the topic somewhat differently<sup>3</sup>, Cook and Whitmeyer (1992, p.114) note that “exchange theory is really the name of a class of theories all of which have much in common. Exchange theory can be seen as an approach to interaction and structure based on two principles: (I) The actor can be modelled as motivated by interests or rewards/punishments- i.e. all behaviour can be seen as so motivated; (II) most interaction consists of the exchange of valued (though not necessarily material)

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<sup>2</sup> A resource is the capacity to provide some benefit to another (Emerson, 1981, p. 32).

<sup>3</sup> Homans' theory drew upon the disciplines of behaviouristic psychology and elementary economics to give an explanation of social behaviour as involving an exchange of rewards and costs. Thibaut and Kelly's theory of interaction outcomes in dyads and triads is similar to Homans' theory since they both attempted to explain social behaviour based on rewards and cost incurred in interaction. Blau did not base his theory of exchange upon behavioural principles; instead he introduced micro-economic reasoning into his analysis of social exchange (Heath, 1976). Emerson's (1972 a, 1972b) exchange theory expands on his earlier work of power-dependence theory (Emerson, 1962) to address social structure in larger networks of exchange relations beyond dyadic exchange. His work marked the turning point of a new stage of exchange theory development.

items.” However, critics<sup>4</sup> of exchange theory (except that of Emerson, 1972 a, 1972b) have argued that it is only relevant to dyadic relations and does not account for more complex structure of social relations involving three or more actors (Yamagishi et al., 1988). Since the present study focuses on expectations of trusting behaviours of dyadic relations between an ego and his/her strong ties and weak ties, this potential limitation does not undermine the relevance of exchange theory. Emerson’s (1981) distinction between negotiated and reciprocal exchanges will be used to supplement Blau’s (1964, 1968) approach to help develop a theoretical framework of fundamental expectations in an exchange. This distinction will be discussed in the next section.

In the context of a dyadic exchange between an ego and a strong or weak tie, valued items or resources enter exchange transactions. Such resources might include materials (good and services), social-emotional (advice and support), or cognitive (information) resources. Further, resources that provide instrumental help are valued by each actor in the dyad and are exchanged in the form of favours (Stolte, 1988).

In mutually dependent relations<sup>5</sup>, “each actor values some outcomes that are under the control of the interaction partner” (Molm, 1994, p.165). In Figure 2.1, Ego A values alter<sup>6</sup> B’s resources (e.g. referrals). Conversely, alter B values Ego A’s resources (e.g. information and ideas). Each provides the other with benefit through exchange. When

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<sup>4</sup> Writers, for example, Emerson (1972a, 1972b), Coleman (1972, 1974), Cook and Emerson (1978), Cook et al. (1983) and Marsden (1981, 1983), have responded to the shortcoming of the exchange approach by encompassing other factors, such as power, that influence social exchange in more complex network structures. This is beyond the scope of this thesis.

<sup>5</sup> Molm (1994) presented an argument to distinguish between dependence and interdependence in the context of social exchange. Dependence: each actor depends *solely* on the behaviour of another actor or actors. Dependence is the defining structure of exchange relations and exchange networks (Figure 2.1). Interdependence: Each actor’s outcomes depend on the behaviours of *all* actors in the social unit. Interdependence is the defining structure of groups.

the recipient of benefit reciprocates directly to the giver, the exchange is named direct (restricted) exchange according to Molm (1994). It follows that in an exchange relation, actors produce mutual benefit through exchange (Emerson, 1972b). The focus in this thesis is on direct exchange relations. When the recipient returns benefit to another actor in the social circle, exchange becomes indirect involving at least three actors in a network (Molm, 1994) (see Figure 2.2). This is not covered in this thesis.

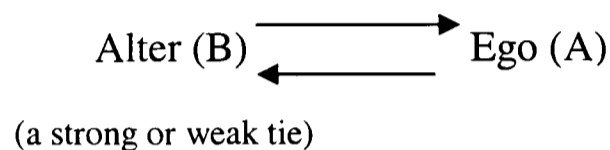


Figure 2.1 Direct (Restricted) Dyadic Exchange

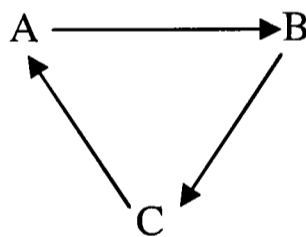


Figure 2.2 Indirect Exchange

Further, the recipient of benefit is the one who decides when and how to reciprocate, or whether to reciprocate at all. Therefore, social exchange requires trusting others to reciprocate and others need to prove themselves trustworthy. As individuals regularly discharge their obligations, they prove themselves worthy of further trust. “Since exchange obligations promote trust, special mechanisms exist to perpetuate

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<sup>6</sup> Alter is a terminology in social networks. It represents a relationship tie within a social network of an ego.

obligations and thus strengthen bonds of indebtedness and trust” (Blau, 1964, p.99).

This thesis will examine the norm of reciprocity, and whether this norm serves as a mechanism to discharge obligations later in the chapter.

### 2.2 Negotiated and Reciprocal Exchanges

In developing a proposition of fundamental expectations, this thesis draws on Emerson (1981)’s distinction between negotiated and reciprocal exchanges although it is not the purpose of the thesis to measure trust in both forms of exchange. This section discusses both kinds of exchange in order to examine which expectations are respectively important in each form of exchanges.

Contemporary theorists have further differentiated between unspecified obligations in reciprocal exchanges and specified terms of exchange through explicit bargaining process in negotiated exchanges (Emerson, 1981; Molm, 1994, 2001).

In negotiated exchanges, two actors agree on benefits for both exchange partners whether or not there is a formal written binding contract. The flow of benefits is bilateral. Most economic exchanges<sup>7</sup> fall into this category of exchange. In reciprocal exchanges, two actors initiate exchanges (e.g. with a small act of consideration or an offer of help) individually by doing something beneficial for the other with the expectation of future reciprocity being left implicit. Exchange relations develop over

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<sup>7</sup> A number of theorists, including Blau (1964), Emerson (1981), have attempted to distinguish between economic exchange and social exchange. The major difference is that neo-classical economic theory assumes “that transactions are independent events...the absence of long-term relations between exchange partners. Obligations, trust, interpersonal attachment, or commitment to specific exchange partners are all alien topics for neo-classical economic theory.” (Emerson, 1981, p. 35)

time, “taking the form of a series of sequentially contingent and individual acts” (Molm, 2001, p.262). Reciprocal exchanges are typical of many social exchanges and are uncharacteristic of economic exchanges (Molm, 1994). In the context of the present thesis, exchanges with strong ties in business, which are typically on-going exchanges (Granovetter, 1973; Aldrich & Zimmer, 1986), would indicate that more negotiated exchanges may take place with strong ties than with weak ties.

Both forms of exchange entail risk and uncertainty although they differ in kind (Molm, 1994; Molm et al., 2000). For example, terms of agreement in negotiated exchanges may not be honoured (Heckathorn, 1985) and quality of the goods or services being traded may be uncertain (Kollock, 1994). Actors in reciprocated exchanges risk not receiving sufficient benefits. Once the relation is established, an actor may be able to infer the other’s intention and make predictions about future reciprocity.

In a laboratory study with students, Molm, Takahashi and Peterson (2000) showed that reciprocal exchanges produce stronger trust and affective commitment<sup>8</sup> than negotiated exchanges after controlling for a number of variables including assumptions of exchange conditions that eliminate sources of risks, positions in a network structure and gender. The study examined the effect of power on behavioural commitment and equality of exchange by producing systematic variations in two network structures, a high-power network and a low-power network. For control purposes, the high-power network and the low-power network consisted of same-sex

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<sup>8</sup> Molm, Takahashi and Peterson (2000, p. 1406) define affective commitment “as feelings of liking for, and attachment to, a specific exchange partner, which are indicated by expressions of commitment to the partner and positive evaluations of the partner.”

## Chapter 2

subjects, with gender balanced. The exchange conditions were also controlled such that the values of benefits received from both exchanges were known, certain and equal, and agreements in negotiated exchanges were binding.

However, it is important to point out that in the real business world, both forms of exchange have their own sources of risks as briefly described above. Further, Kellock (1994, p. 317) summarises one source of uncertainty: “in the language of game theory, we are often faced with information asymmetries: you and I have different bundles of information. This lack of information about the motivation of others and the quality of what is exchanged can open one up to serious risks and lead to unfortunate outcomes”. Furthermore, we may anticipate that institutional systems such as enforceable warranties or contracts (e.g. Heimer, 1985) or legal regulations and formal rules (Zucker’s institution-based trust, 1986) may help alleviate risks in business transactions. However, these methods have their own limitation and risks (Coleman, 1990; Shapiro, 1987). For example, Lane and Bachmann’s (1997, p. 249) cross national study of the relationship between trust, power and law of Britain and Germany suggests that “British economic individualism renders the presence of law in business relations less widely and uniformly accepted. Law is invoked as a last resort, and more freedom is left to individual managerial initiatives in the regulation of business relations.”

For this reason, even though there is a binding agreement, some actors may still void their agreements. They may fail to keep their promises, for example. Although this thesis does not explicitly distinguish between negotiated and reciprocal exchanges, it

is worth considering the relevance of the present arguments for both kinds of exchange.

In the context of trust between business executives and their strong ties and weak ties, this thesis suggests that both negotiated and reciprocal exchanges exist in the direct exchange transactions involved in doing business with each other. Such a claim may lead us to question which expectations are more salient in negotiated exchanges than reciprocal exchanges, and which expectations are more important in reciprocal exchanges than negotiated exchanges. Further, there may be expectations that are equally important in both forms of exchanges. These questions will be addressed later in the chapter after reviewing literature concerning expectations and bases of trust in the following sections.

### 2.3 Expectations and Generalised Expectancies

The conception of trust as expectations was briefly introduced in Chapter 1. This section is a more detailed review of literature on expectancies and expectations. Possible distinctions between expectancies and expectations are also considered.

Rotter (1967, 1971) defines interpersonal trust “as an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon” (p. 651). The concept of trust as expectancies is also adopted by some other researchers, for example, Deutsch (1949, 1958, 1960)

## Chapter 2

as an expectation of interpersonal events<sup>1</sup> (not people) and Heretick (1981) as those expectancies one holds about others' underlying intentions and motives. Further, Barber (1983) argues that trust means expectations in its most general sense. They are "the meanings social actors attribute to themselves and others as they make choices about which actions and reactions are rationally effective and emotionally and morally appropriate" (p. 9). When people say, 'I trust my fellow man to be good, kind and decent', such expectations are indeed necessary for effective and moral human action to continue (Barber, 1983). Similarly, Zucker (1986) views trust as a set of expectations shared by all those involved in an exchange, as mentioned in Chapter 1.

In the trust literature, the term "expectations" has been used by researchers as having the same meaning as "expectancies" although Zucker (1986) has found that 'expectations' is by far the more commonly defined term in social sciences. In cognitive psychology, expectancies are beliefs about a future state of affairs. The idea is that we use past experiences and knowledge to make assumptions about others' anticipated responses to our actions (Olson, Roese & Zanna, 1996). Olson et al. (1996) particularly refer to subjective probabilistic expectancies or perceived contingency likelihoods (i.e. what might happen). This resembles Rotter's (1954) definition of expectancies as perceived probabilities that particular reinforcements will occur following specific behaviours. It seems, therefore, that some researchers draw a distinction between expectancies and expectations, whereas others make no such distinction. This thesis adopts the meaning of expectation used by Barber (1983)

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<sup>1</sup> Deutsch (1958, p. 266) defines trust as follows: "An individual may be said to have trust in the occurrence of an event if he expects its occurrence and his expectation leads to behaviour which he perceives to have greater negative motivational consequence if the expectation is not confirmed than positive motivational consequence if it is confirmed."

and Zucker (1986), and will use the term ‘expectation’ instead of ‘expectancies’ in proposing a theoretical trust model later in the chapter.

Further, Rotter’s (1967, 1971) offered his view of generalised expectancies that other people in general are reliable and honest. However, this thesis examines his view below, and suggests that standards of expected behaviours in strong ties may differ from those in weak ties.

### Generalised Expectancies

According to Rotter (1967, 1971), trust is a generalised response derived from the reinforcement history of previous social interactions. According to his social learning theory, individuals differ in their generalised expectancies that the oral or written statements of other people can be relied upon. He notes that an extensive number of our everyday decisions, such as “buying gasoline, paying taxes, going to the dentist, flying to a convention” involve trusting someone else (Rotter, 1971, p. 443). One of the key findings is that people who trust others are regarded themselves as being trustworthy (dependable). Further, being trustworthy is regarded as a more desirable trait than popularity or friendship (Rotter, 1967). In articulating philosophies of human nature, Wrightsman (1966, 1972) states that people develop a personal philosophy about how other people will behave. The first dimension of this personal philosophy of human nature is how one would view trust. That is “the extent to which one believes that people are basically trustworthy<sup>9</sup>, as opposed to believing that

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<sup>9</sup> In Wrightsman (1992, p. 78), trustworthiness “deals with beliefs about people and about actions that may or may not directly affect the respondent. Would most people cheat on their income tax if they thought they could get away with it? Whereas, interpersonal trust deals with the credibility of specific

people are untrustworthy” (Wrightsman, 1992, p. 65-66). In a similar sense, he also describes trust as a generalised expectancy that other people in general are reliable and honest.

However, the concept of trust as generalised expectancy seems too simple. Other definitions move beyond expectations to specify the key situational or contextual parameters that describe or define situational risk. For this reason, an example of a more complete definition of trust is “a state involving confident positive expectations about another’s motives with respect to oneself in situations entailing risk” (Boon & Holmes, 1991, p. 194). Kellock (1994) investigated how different exchange conditions could lead to different levels of trust between trading parties in a controlled laboratory experiment. One of the findings was that participants (students) ranked their most frequent exchange partner (also a student) as more trustworthy than their least frequent exchange partner regardless of their certainty about the quality of the goods being traded. In addition, subjects in the uncertain-quality condition on average rated their trading partners as more trustworthy than subjects in the certain-quality condition. An implication is that there is a positive relationship between ongoing exchange interaction and trust whether or not there is significant uncertainty (Kellock, 1994). The higher the frequency of exchange, the higher the trust in exchange partners. This finding supported Granovetter’s (1985) notion of embeddedness of ongoing social relations that generate standards of expected behaviours and hence trust. Further, ongoing relations signify strong ties (Granovetter, 1973). A relevant research question is whether standards of expected behaviours in strong ties are higher than those in weak ties. This question will be revisited later in the chapter.

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people, group, or institutions regarding specific actions – actions that have an influence upon the

### 2.4 Bases of Trust, and Fundamental Expectations

While expectations and expectancies were clarified in the previous section, this section addresses the terminology of conditions and bases of trust adopted by other researchers, and posits three fundamental expectations that influence trust level in strong and weak ties.

Studies of bases or conditions of trust between executives and their subordinates within organisations are covered in the discipline of management. For example, Gabarro (1978) identified nine bases of trust by interviewing executives about their perceptions of trust, and how they thought trust had developed. These included integrity, motives, consistency of behaviour, openness, discreetness, functional/specific competence, interpersonal competence, business sense and judgement.

In Butler's (1991) review of several factor analytic studies of trust, it was suggested that Gabarro's bases of trust should be viewed as conditions for building trust rather than factors relevant to the understanding of the construct of trust. He claimed that they are conditions that activate and sustain trust in a specific person. Through content analysis of interviews with managers, Butler inferred ten conditions of trust between managers and their subordinates. They were availability, competence, consistency, discreetness, fairness, integrity, loyalty, openness, promise fulfilment, and receptivity. Subsequently, an 11-scale inventory called the Conditions of Trust Inventory (CTI) was developed and validated. Apart from fairness and receptivity, these ten conditions

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respondent. Will my friend pick me up when he said he would?"

were conceptually similar to most of the trust bases identified by Gabarro (1978). This thesis argues that Butler's conditions of trust are more appropriately described as expectations of trusting behaviours. This is because the associated measures concern expectations held by one party of another. For example, one of the questionnaire items under discreteness is "If I give \_\_\_\_\_ confidential information, he/she keeps it confidential." This item is measuring expectation of discretion in keeping information confidential. This thesis uses the terminology of expectations to replace the terminology of trust bases or conditions.

In a sense, Butler's (1991) conditions of trust between superiors and subordinates were expectations of each other to behave with competence, consistency, discretion, integrity and so forth. These expected behaviours could be perceived as core expectations between them. This thesis attempts to determine what the core or fundamental expectations influence trust levels between business executives and their strong and weak ties. This question is best addressed using the framework of negotiated and reciprocal exchanges, and considering the research question raised at the end of Section 2.2 regarding which expectations are more salient in negotiated exchanges than reciprocal exchanges, and vice versa.

In answering these questions, this thesis posits that the fundamental expectations that influence trust level in strong and weak ties are expectations of honesty, reliability and discretion, and that these expectations characterize negotiated exchanges in particular. However, expectations of mutual benefits and reciprocation of favours are not fundamental expectations, and do not influence trust level in strong and weak ties. They exist particularly in reciprocal exchanges. The rationale is summarised below:

Because of the uncertainty and risk involved in exchanges, egos<sup>10</sup> may tend to avoid being taken advantage of by restricting their transactions to those strong ties who have shown themselves to be trustworthy, and to those weak ties whom they believe meet their expectations of trusting behaviours. This thesis proposes that the fundamental trusting behaviours are honesty, reliability and discretion in keeping sensitive matters confidential in business exchanges. Therefore, it is further suggested that expectations specifically related to honesty, reliability (Rotter, 1967) and discretion (Butler, 1991) are the fundamental expectations that influence the trust level between business executives and both their strong ties and weak ties irrespective of the strength of the relationship. Questions concerning whether expectations of these trusting behaviours will vary with the strength of the relationship will be addressed later on in this chapter. This thesis also posits that these three expectations correlate with each other and form a factor since they are expectations concerning qualities of strong and weak ties.

Further, among Butler's (1991) ten conditions of trust between managers and subordinates, the conditions of fairness, openness and integrity are not considered as fundamental expectations in the present thesis for the reasons outlined below.

In the context of conducting business transactions, fairness is the quality of being reasonable and just. Openness refers to telling others what you think and what is on your mind (Butler's Condition of Trust Inventory, 1991). During interviews conducted for the present thesis in the UK and Shanghai, some participants tended to

see expectations of fairness, openness and honesty as so closely inter-related that these expectations did not seem to be worth judging separately. The participants suggested deletion of the items on fairness and openness in favouring a shorter questionnaire, but focusing on honesty, reliability and discretion as the core expectations of strong and weak ties.

Furthermore, in Butler's (1991) Conditions of Trust Inventory, questions under integrity are X tells me the truth, deals honestly with me, would not lie to me and sometimes X does dishonest things (reverse coded). In fact, these questions are related to honesty. Collin's Cobuild English Dictionary (1995) defines integrity as being honest and firm in your moral principles. Therefore, this thesis does not consider expectations of integrity as well as fairness and openness for the above reasons.

Having proposed the notion of the three fundamental expectations, this thesis now examines expectations that may be important to reciprocal exchanges, and whether they are also part of the fundamental expectations that influence trust in strong and weak ties.

If we link the notion of trust as expectations and Blau's (1964) view of social exchange involving favours and returning received benefits, this thesis can identify two other relevant expectations that characterise reciprocal exchanges. They are expectation of mutual benefits and expectation of reciprocation of favours. The former expectation is understood to be an expectation of an actor receiving some benefits after the other actor has received benefits from him/her. In the context of this

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<sup>10</sup> The terminology of "Ego" in social networks was previously defined in Chapter 1 under section 1.2.

thesis, favours are related to network resources being reciprocated between two actors. They are information, contacts, referrals, new business, advice and so forth (Stolte, 1988). The research question now becomes whether expectations of mutual benefits and reciprocation of favours are part of the fundamental expectations that influence trust in strong and weak ties.

Because of lack of past research materials to help us respond to the above question, this thesis draws on materials derived from qualitative semi-structured interviews that were designed to assess expectations in order to develop ideas for experimental testing. In total, there were 20 semi-structured interviews in southern England conducted for the thesis, which were iterative in nature as the focus of the research was explored. Interviewees were recruited mainly on the basis of personal introductions to small business owners or senior executives managing their organisations. At the beginning exploratory stage, the interviews were focused on individual characteristics of strong ties in their core networks, whom they networked with, and understanding their trust values and business ethics. As the interviews progressed, new items such as those related to expectations of strong and weak ties were added in trial questionnaires. Most items were modified in order to ensure comprehensibility. Tentative hypotheses were tested by asking interviewees their reasons for choosing certain responses after they had completed trial questionnaires. At the end of the interview process, final versions of the questionnaires for each study of the thesis were constructed for empirical testing.

For the present study, this thesis predicts that irrespective of strength of relationship, expectations of reciprocation of favours and of mutual benefits may be viewed as

expectation of additional bonus of the relationship after having the fundamental expectations of honesty, reliability and discretion being fulfilled by the trusted person.

The interview quotes are summarised below to support this prediction:

One business executive<sup>11</sup> noted what he observed firstly with strong ties, “mutual benefits and reciprocation of favours are added benefits as a result of having trust established... as consequences of the expectations of honesty, reliability and discretion being met.”

Furthermore, the same business executive also said that: “There is a common saying between close associates in business, ‘you owe me one or I owe you one’. Such expression implies that ‘you owe me a favour not now but sometime in the future. If I were in need of your help in the future, you would make a special effort to help me. I could put moral pressure on the other to reciprocate sometime in the future... Mutual benefits - even right now there may not be a mutual benefit. There is a time delay.”

This perspective coincides with McCall and Simmons’ (1966) view of reciprocity over time. The researchers suggested that in ongoing relationships, as the dyad members develop mutual trust, it is possible for them to reciprocate in future (i.e. provide rewards now in the hope of future returns). They need not reciprocate in each separate encounter (transaction or dealing), because they trust each other to reciprocate over future encounters. The researchers also viewed that reciprocation is just as important in close relationships as between strangers.

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<sup>11</sup> The business executive was interviewed in year 2000 for the purpose of extrapolating from his experience of trust in business dealings in order to construct the present theory of trust. He is a self-

## Chapter 2

These conclusions about reciprocity over time in longer-term relationships are consistent with equity theory, which was developed by Walster et al. (1978) based on

Homans' (1961) original social exchange theory. The equity principle states that people will consider relationship to be satisfactory only if they gain as much as they put in. Cate et al. (1988) further suggest that equity seems to be important at early stages of relationships, but actors seem to trust the other's good intentions and do not monitor the relative contributions too closely once the relationship is well established. For this reason, it becomes less necessary to monitor equality of inputs into relationships on a moment-by-moment basis once "trust" expectations are established.

However, with weak ties, the executive noted, "it is by chance that I may receive a favour from them. It is because the relationship is weak and the person may not remember to reciprocate in the future. You don't immediately expect mutual benefits. You learn to trust them over time after having repeated positive experiences. The stronger the tie then becomes."

Another business executive<sup>12</sup> commented: "mutual benefits and reciprocation of favours come secondary. They are a bonus of the relationship after the trust is built. That is a proof to you that you have done the job properly and that you have built a relationship... I expect reciprocation of favours from both strong ties and weak ties to be fairly even and see no difference. It depends more on the person and not the strength of the ties."

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employed management consultant who had an extensive network of contacts and had been in his field for over 30 years.

<sup>12</sup> The business executive managed a training centre and had been in business over ten years.

Although comments from two business executives are not representative of the business population, their views seem to coincide with each other. This thesis proposes that it is likely that weak ties would reciprocate benefits or favours in an indeterminate manner because of the weak relationships. That is when weak ties remember to reciprocate benefits or favours in a foreseeable future interaction. Further, increasing closeness or trust in an ongoing relationship does not reduce the obligation or need to reciprocate, but rather extends the time frame over which reciprocation may be honoured.

Therefore, this thesis suggests that expectation of reciprocation of favours and expectation of mutual benefits may characterise exchanges, particularly reciprocal exchanges, between business executives and strong ties and weak ties. It is posited that these expectations may not be crucial to the trust established when doing business with either strong ties or weak ties. That is there may be no direct influence on the trust level between them. Further, this thesis posits that these two expectations correlate with each other and form a factor since they are expectations involving strong and weak ties to return benefits and favours, characterising interaction in an exchange.

Having proposed the fundamental expectations of honesty, reliability and discretion, this thesis proceeds to explore whether there are expectations of reciprocation of trusting behaviours between business executives and their strong and weak ties by reviewing literature concerning mutual trust and the norm of reciprocity in the following section.

### 2.5 Norm of Reciprocity

This section addresses how mutual trust is formed, and whether there is a norm of reciprocity that serves as a mechanism to motivate both actors to reciprocate received benefits.

Tyler (2001) expands the conception of expectancies to include predictability: an estimate of the future behaviour of others. Estimating the future behaviours of others means predicting whether others will reciprocate any cooperative behaviours that a person may undertake. “If people believe that others will reciprocate their own cooperative behaviours, they are more willing to engage in cooperative exchanges with these others” (Tyler, 2001, p 287). In slightly different terms, Deutsch (1958, p. 267) explains the specific implication of the term “trust” in interpersonal situations as follows:

“When we say that person I trusts person II to do something, we usually imply that II is aware of I’s trust. When II does not behave in accordance with I’s trust, II is letting I down; II has caused harm to I. That is, person I does not merely trust that person II will perform certain behaviour; he feels that II is, in some way, obliged to fulfill his trust”

Moreover, Deutsch (1958, p.267) suggests that “mutual trust may be said to exist when person I and person II have complementary social trust with regard to each other’s behaviour. I trusts II to behave in a certain way and is willing to do what II trusts him to do; the same is true for II. Each perceives that the other person is aware

of his intent and his trust". As in Hardin's (2002, p. 17) definition of trust as encapsulated interests, "I trust you because it is in your interest to do what I trust you to do, and you trust me for the reciprocal reason". He also stresses that mutual trust at the interpersonal level involves an ongoing interaction that is part of a long sequence of exchanges between two parties (Hardin, 2002).

However, when there is no pre-existing socialised basis for mutual trust between person I and person II, Deutsch (1960) suggests that a mutual exchange can still be profitable to each other. The researcher contended that "the initiation of cooperation requires mutual trust", and "the subject with a cooperative orientation would be both trusting and trustworthy" (Deutsch, 1960, p.124 and 127). Under different experimental conditions, Deutsch (1960) further examined the notion of mutual trust in a study of effects of motivational orientation (cooperative, competitive, and individualistic), psychological simultaneity of choice (full psychological simultaneity of choice, simultaneous choice, and non-simultaneous choice), communication, and one-trial versus ten-trial games upon the likelihood to choose cooperatively in paired subjects. The gains or losses of this two-person non-zero-sum game (Luce & Raiffa, 1957) presented to the paired subjects were similar to that of a Prisoner's Dilemma Game<sup>13</sup> (PDG). To cooperate will bring rewards to both players even though the sum of one person's loss and another's gains need not be zero. Both can win with cooperation, but both can lose if both choose to be competitive. The purpose of the

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<sup>13</sup> A Prisoner's Dilemma Game is a paradigm supposedly utilised by district attorneys (DA) in order to get one of the two suspects to confess to a crime for which conclusive evidence of guilt is lacking. This dilemma was first described by A.W. Tucker in Luce and Raiffa (1957). The DA would create a dilemma between the two suspects by offering them individually the same deal to each: if you confess while the other does not, you will get a reduced charge carrying a sentence of three months for turning state's evidence, while the other serves twenty years. The DA does not tell them that if they both confess, each will get a ten-year sentence. The dilemma facing the two suspects is whether to cooperate by remaining silent, or to defect by confessing. This situation brings out fears of betrayal by the other.

study was to identify whether different experimental conditions would change the likelihood of cooperative, competitive, or individualistic behaviours among the paired subjects. As expected, under all experimental conditions, cooperative orientation led the subjects to make cooperative choices as induced by the condition of cooperative orientation. Cooperative subjects did not require communication to make cooperative choices. However, under the condition of communication, full psychological simultaneity, and the one-trial game, the individualistically oriented subjects, who were induced to win as much money as possible for self, were particularly faced with the decision to use a tit-for-tat strategy (introduced earlier in Chapter 1). The findings showed that the tendency to choose cooperatively increased significantly among subjects with individualistic orientation when they were allowed to communicate with each other before making choices. The full psychological simultaneity of choice allowed the paired subjects to change their choices after the subjects had both chosen secretly and simultaneously, and the experimenter had announced their choices. The individualistically oriented subjects chose to cooperate, reacting similarly to the cooperatively oriented subjects. These results confirmed Deutsch's (1960) hypotheses that mutual cooperation would likely occur if individualistically oriented subjects could commit themselves to the choice of cooperation, or were simultaneously aware of the other's choice of cooperation as they made their own choices to cooperate.

To play a tit-for-tat strategy in a PGD such as that in Deutsch's (1960) study is to reciprocate both cooperation and defection. Conflict arises when one party that entirely fails to reciprocate defections get exploited. Only when both reciprocate cooperation, both take advantage of opportunities for mutual profit. For this reason, mutual cooperation is an act of reciprocity that induces mutual trust. If each person

has a built-in incentive to be trustworthy, a reciprocal trusting relationship is mutually reinforcing for each actor (Coleman, 1990). Such a reciprocal relationship can be further explained by Gouldner's (1960) norm of reciprocity, which is central to exchange processes. That is "what one party receives from the other requires some return, so that giving and receiving are mutually contingent" (Gouldner, 1960, p.169). In an example of a simple social exchange, the norm of reciprocity holds that "people should help those who help them and, therefore, those whom you have helped have an obligation to help you." (Gouldner, 1960, p. 173). Gouldner states that the generalised norm of reciprocity may contribute to social system stability. He further explains that such an obligation towards others to reciprocate is based on their past behaviour, for example "what they have previously done for us or the history of previous interaction we have had with them" (p.171). When two parties in an exchange conform to one another's expectations that are often mutually compatible, they reciprocate benefits as a result of a commonly internalised moral norm. In other words, reciprocity is a moral norm that governs the exchange of benefits or gratifications between two parties and entails some kind of obligation to repay the benefits received.

Therefore, if we link the concept of mutual trust and the notion of the norm of reciprocity, we may draw the following conclusion. The norm of reciprocity can be interpreted as the internalised moral code that nurtures mutual trust between two parties who reciprocate co-operative behaviours to each other in an exchange relationship. In this respect, this thesis explores whether there is a norm of reciprocity that serves as a mechanism to motivate both actors to reciprocate trusting behaviours to each other, which are beyond the obligation to reciprocate merely benefits in an exchange. In addressing this research question, this thesis re-examines Blau's (1964)

social exchange theory, proposes a notion of meta-trust to signify a meta-cognitive process underlying reciprocity of trust, and a theoretical model of trust in the next section.

### 2.6 A Theoretical Model of Trust

Classical social exchange theorist, Blau (1964), emphasises that social exchange requires trusting others to reciprocate benefits received, and that others need to prove themselves trustworthy. As individuals regularly discharge their obligations, they prove themselves worthy of further trust. In this sense, reciprocating benefits or favours received is a trusting behaviour to prove one's trustworthiness. Below is an attempt to expand Blau's claim to include other trusting behaviours in the context of business dealings.

Earlier, it was suggested that negotiated and reciprocal exchanges exist in business dealings between business executives and their strong ties and weak ties. If we think beyond the realm of the obligation to reciprocate benefits received in social exchanges, and try to encompass negotiated exchanges including the types of resources<sup>14</sup> involved, we can include other behaviours of reciprocity in trust.

Behaviours such as delivering goods or services according to what has been promised, being honest with foreseeable failures of proposed actions, or being open to share essential information are trusting behaviours in the business context. Thus, this thesis argues that Blau's social exchange theory of reciprocating benefits (or favours) in

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<sup>14</sup> Stolte (1988) suggests that resources might include any valued objects, actions or conditions, whether materials (good and services), social-emotional (advice and support), or cognitive (information).

establishing trust can be extended to include reciprocating other trusting behaviours. The conception of trust as expectations, and the notion of reciprocity of trust logically lead us to think of a meta-cognitive process that further underlies the process of reciprocity of trust. That is the cognitive process of expectations of reciprocating trusting behaviours. Here, this thesis introduces a notion of *meta-trust* and draws a distinction between trust and meta-trust. In this thesis, trust is a set of expectations shared between actors involved in an exchange. The dynamics behind reciprocity of trust is “I trust you to trust me”. Similarly, the same dynamics may exist in meta-trust. That is “I expect reciprocity of trusting behaviours in you when I fulfill my perception of your expectations of trusting behaviours in me”. This thesis posits that there is meta-trust that signifies expectations of reciprocity of trusting behaviours, which further underlies the cognitive process of trust being reciprocated, and therefore mutual trust is established between two actors. Within the scope of this thesis, trusting behaviours are those behaviours that are congruent with the business executives’ expectations of honesty, reliability and discretion. Thus, when behaviours of strong ties that match with business executives’ expectations are also similar or compatible with strong ties’ expectations, we may say there is mutual trust between the actors.

Cooperative behaviours may also be regarded as trusting behaviours. Tyler (2001) suggests that people are motivated to maximise their resources and minimise their losses by predicting what others will do in response to their own behaviours. Hence, he states that “people focus on the probable behaviour of others so that they can behave strategically” (Tyler, 2001, p. 287). In essence, this is what Hoagland (1969, p. 38) means when he writes: “we do unto others just about what we think they would do to us if they have the opportunity”.

Further, in capturing the core of reciprocal trusting relationships, Hardin (2001, p. 19) contends that “a good way to get me to be trustworthy in my dealings with you, when you risk trusting me, is to make me reciprocally depend on your trustworthiness...I want to be trustworthy in part to induce you to be trustworthy”. The reciprocal nature of trust relationships, and the fundamental expectations of honesty, reliability and discretion proposed earlier are features of the proposed model of trust shown in Figure 2.3. This model focuses particularly on trust with strong ties. Trust with weak ties will be considered later.

For reciprocation of high trust, Hardin’s contention can be interpreted as follows: for you to trust me, not only should I fulfil your expectations of me as perceived by me (path A of Figure 2.3), but also it is in my interests to respond with reciprocal expectations of you for you to prove your trustworthiness. In other words, if I have lower expectations of you being honest and reliable than my perception of your expectations of me, it is likely that you have doubts about how much you can trust me. Thus, my expectations of you influence your trust in me (depicted in path B of Figure 2.3).

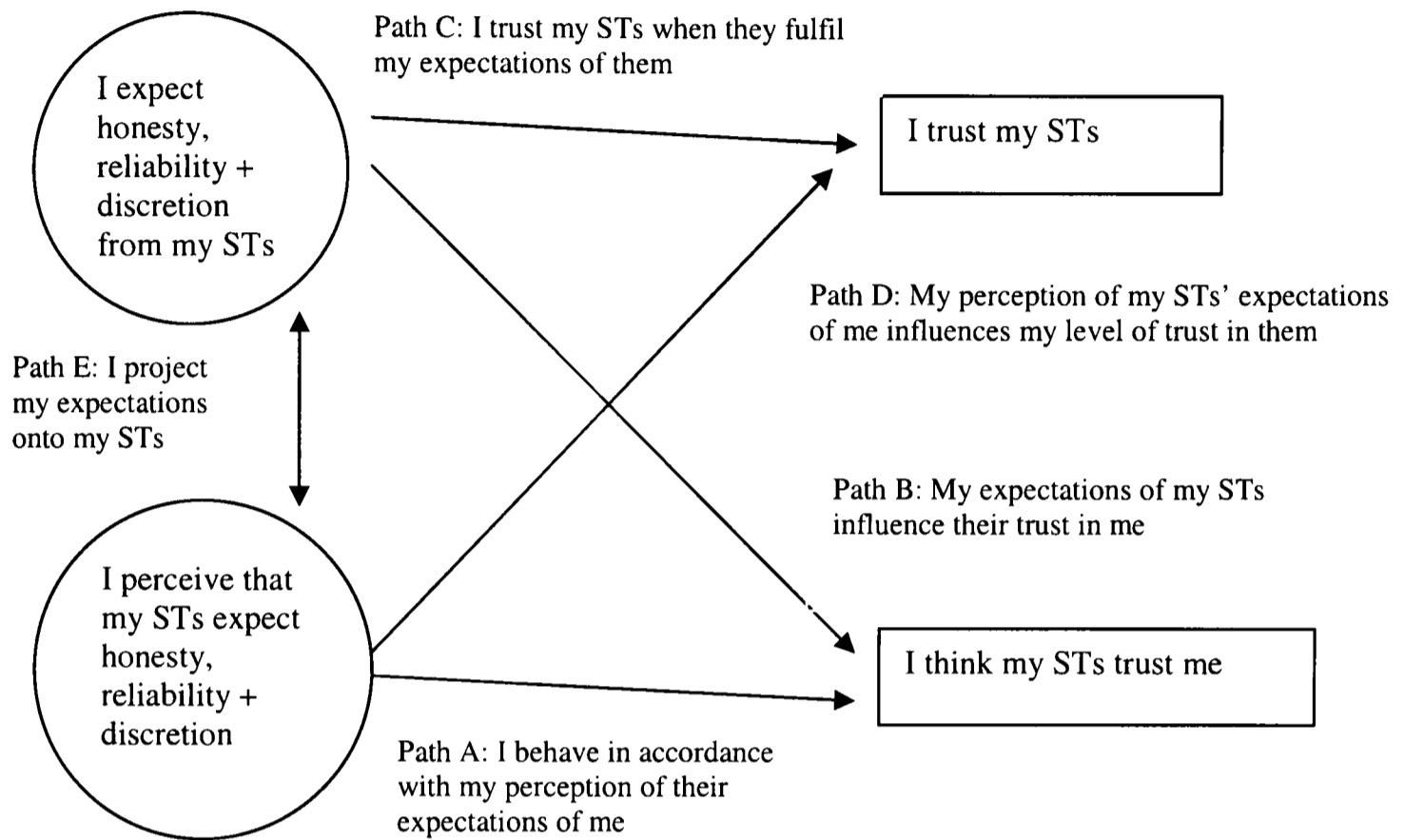
Furthermore, if you demonstrate trusting behaviours by meeting my expectation, not only do I trust you (depicted in path C of Figure 2.3), but also I will respond to you and demonstrate my trusting behaviours by reciprocating in kind in order for me to prove my trustworthiness. That is if I perceive that you have low expectations of me being honest and reliable, I would have doubts about how much I can trust you. Thus,

my perception of your expectations of me influences my level of trust in you (depicted in path D of Figure 2.3).

Therefore, it is posited that the principle of “do as you would be done by” characterises reciprocal trusting relationships between two actors, an ego and an alter, in an exchange (path B and D in Figure 2.3). In this sense, we may expect that path B and path D are additional respective influences on ‘I think my STs trust me’ and ‘I trust my STs’. These influences depict the process of expectations of reciprocating trusting behaviours. In other words, meta-trust underlies reciprocity of trust.

In path C, there may be an intricate dynamic that governs the process of “I trust my strong ties when they fulfil my expectations of them”. There is a possible role of expectancy effects, such as the self-fulfilling prophecy identified by Rosenthal (1964, 1966, 1969). Rosenthal suggested that our expectations could alter the way others actually behaved as opposed simply to our perception of them. The researcher showed that experimenters’ expectations could unintentionally influence the individuals they studied. This expectation may act as a self-fulfilling prophecy. That is, experimenters’ behaviours tend to affect behaviours of subjects in ways that may lead them to confirm the expectancies they hold about them. Similarly, Snyder, Tanke, and Berscheid’s (1977) study of men students believing that beautiful women were desirable also confirmed the self-fulfilling prophecy. Their beliefs lead them to speak on the phone to women students in such a way that influenced the women to speak more warmly, fulfilling their stereotype of beautiful women. In the present context, it is conceivable that ego’s expectations of his/her strong ties to be honest, reliable and discrete lead the strong ties to behave in such a manner. As a result, ego trusts them.

The present research did not examine this expectancy effect since this was outside the research scope.



**Key:** STs are strong ties

Figure 2.3 A Proposed Theoretical Model of Trust between Business Executives and their Strong Ties

Furthermore, this thesis suggests that an ego, for example, may tend to infer an alter's expectations of trusting behaviours based on the ego's own set of expectations. In other words, the ego may tend to project his/her own levels of expectations onto the alter, and respond according to what he/she perceives the alter's levels of expectations of honesty, reliability and discretion to be, for example. We may therefore envisage that the ego's expectations of the alter to behave honestly and reliably are correlated

with the expectations of the alter as perceived by the ego (depicted in path E of Figure 2.3).

The above analysis of expectations of reciprocating trusting behaviours raises a question. In business, do people tend to have business dealings with others who are believed to share similar or compatible levels of expectations of honesty, reliability and discretion in exchanges? This thesis suggests that for mutual trust to exist, respective expectations of both actors involved in an exchange must be similar or compatible following Deutsch's (1958, p. 267) meaning of "person I and person II have complementary social trust with regard to each other's behaviour". This proposition raises the further question of whether business ties who are already perceived as trustworthy are selected, or trust is developed as relationships proceed. The present thesis focuses on investigating what trust means between business executives and their existing business relationships. It is outside the scope of the thesis to explore selection criteria of strong and weak ties at the beginning of forming relationships, or how trust is developed over time as relationships proceed. The latter context requires a longitudinal study, capturing data at the beginning of relationships, and again some time after relationships have developed.

Thus far, the underlying cognitive process of expectations of reciprocating trusting behaviours to each other in an exchange has been examined. It is now time to consider whether the norm of reciprocity serves as a motivating mechanism to govern the reciprocation of trusting behaviours between two actors. The meaning of the norm of reciprocity has been reviewed in the preceding section.

In essence, Gouldner's (1960, p. 170) reciprocity is a moral norm that governs the exchange of benefits or gratifications between two parties and entails some kind of obligation to repay the benefits received. He also suggests that the generalised moral norm of reciprocity may contribute to social system stability. In encompassing negotiated exchanges in business dealings, this thesis suggests that the norm of reciprocity can be interpreted as an internalised moral code that nurtures mutual trust between two parties who reciprocate trusting behaviours to each other in an exchange relationship. The internalised moral norm may govern a reciprocity process of mutual reinforcement. That is "Ego's conformity with Alter's expectations reinforces Alter's conformity with Ego's expectations" (Gouldner, 1960, p. 174).

Therefore, it is posited that there may be a norm of reciprocity that serves as a mechanism to motivate both actors to reciprocate trusting behaviours to each other, which are beyond the obligation to reciprocate merely benefits in an exchange. With the notion of meta-trust being proposed in this thesis, the internalised moral norm may also govern a reciprocity process of expectations of trusting behaviours. Hence, a norm of reciprocity may govern both processes of reciprocity of trust and expectations of reciprocity of trust.

### 2.7 Reciprocity and Strength of Relationship

According to the researchers whose work was discussed in the previous section, trust relationships are typically reciprocal. For good reason, the most stable and compelling trust relationships are likely to be mutual (Hardin, 2001). This thesis raises two related questions: Does reciprocity in mutual expectations between two actors vary

with the strength of the relationship? Are expectations of trusting behaviours in strong ties higher than those in weak ties because of the differences in the strength of the relationship? The latter question was raised earlier in Section 2.3. This section examines these two questions that continue to form part of the theoretical framework of the trust model presented in the preceding section.

In general terms, relationships with strong ties entail ongoing interactions but relationships with weak ties are based on ad hoc or sporadic interactions (Grannovetter, 1973). Strong ties and weak ties are on a continuum of relationship strength. In business contexts, we may argue that relationships with strong ties and weak ties only differ in strength and importance from those with weak ties. We are basically comparing two strengths of business relationships of the same kind, strong and weak, but not comparing family and business relationships, which are two very different kinds of relationships with different expectations. If this argument holds, we would expect that the cognitive process of reciprocating trusting behaviours and the expectations thereof between two actors in an exchange, described earlier, should exist between an ego and an alter, whether the alter is a strong tie or a weak tie. We would therefore expect that reciprocity in mutual expectations does not vary with relationship strength. Thus, expectations of honesty, reliability, discretion, reciprocation of favours and mutual benefits are mutually reciprocated between business executives and their strong ties and weak ties irrespective of the relationship strength. Therefore, the trust model presented in Figure 2.3 above is proposed to be applicable to trust between business executives and their weak ties. However, the level of expectations between business executives and their weak ties is expected to be lower than the level with strong ties. This is because exchange theory suggests that

actors come to know each other more, find each other's behaviour more predictable, and believe that they have similar orientations to the exchange situation (Emerson, 1981; Cook & Emerson, 1978).

Further, this thesis expects that the level of trust between business executives and their weak ties is lower than for strong ties. i.e. the levels of trust in both dependent variables in Figure 2.3, 'I trust my WTs' and 'I think my WTs trust me', are expected to be lower than the trust levels in the model of strong ties. This is because trust should increase with the development of frequent and stable exchanges with strong ties following Granovetter's (1985) proposal that embedded on-going social relations can contribute to the production of trust.

### 2.8 The Definition of Interpersonal Trust for a Theoretical Model of Trust

This thesis adopts Zucker's (1986) view of trust as a set of expectations shared by all those involved in an exchange. However, after a trust model for strong and weak ties was proposed with the rationale outlined above, Zucker's (1986) definition is re-defined to reflect a more in-depth meaning of interpersonal trust as follows:

*Interpersonal trust is defined as mutual expectations that drive trusting behaviours to be reciprocated between two actors, an ego and an alter, involved in an exchange, whether it is negotiated or reciprocal.*

### 2.9 Psychology of Morality

Gouldner's (1960) notion of reciprocity carries a strong sense of moral norm. Trust and trustworthiness also have a strong moral salience. This section highlights the relevance of the psychology of morality to the theoretical model of trust in the present study after the theories are introduced below.

Piaget's work (1932) on logical reasoning in children's problem-solving centered on his belief that children advanced through a sequence of cognitive levels during socialization. Once a higher level of reasoning is obtained, it will be maintained. He argued that younger children operated with reference to a morality of constraint at the stage of heteronomous morality (i.e. compliance with rules), whereas, older children operated on a morality of cooperation at the stage of autonomous morality (i.e. rules can be made and changed through discussion). Kohlberg (1969, 1976) extended Piaget's basic framework to include a third level labeled post-conventional. He argued that moral judgment was developed through a sequence of six stages on these three levels. Colby, Kohlberg and colleagues (1981) showed that boys aged 10, 13 and 16 proceeded through these stages of moral reasoning in a 20-year longitudinal study of moral judgment development. The six stages are summarized in Table 2.1 below:

Table 2.1 - Kohlberg's (1976) Six Stages of Moral Judgment

Level and Stage	Socio-moral Perspectives of Stages
<p><u>Pre-conventional Level</u></p> <p>Stage 1: Heteronomous morality</p> <p>Stage 2: Individualism, instrumental purpose, and exchange</p>	<p><i>Moral codes based on self-serving interests</i></p> <p>Individuals avoid breaking rules, punishment, and physical damage to persons and property. An act is considered wrong if one is caught and punished.</p> <p>Rules are conformed to in order to meet one's immediate self-interests and needs. Recognition that others have their self-interests. Right is what is a fair, or an equal exchange in individualistic sense.</p>
<p><u>Conventional Level</u></p> <p>Stage 3: Mutual interpersonal expectations, relationships, and interpersonal conformity</p> <p>Stage 4: Social system and conscience</p>	<p><i>Morality of conventional rules and conformity</i></p> <p>Meeting expectations of people close to an individual, such as those of relatives and friends, is important. "Being good" is important in the eyes of others and self. Showing concerns about others, and having good intentions define morality.</p> <p>Laws are accepted except in cases, which are in conflict with other social duties. Individuals strike a balance between societal points of view and interpersonal motives. Morality is defined by contributing to society, the group, or institution, and maintaining social order.</p>
<p><u>Post-conventional Level</u></p> <p>Stage 5: Social-contract or utility and individual rights</p> <p>Stage 6: Universal ethical principles</p>	<p><i>Morality of self-accepted moral principals</i></p> <p>Individuals are aware of values and rights prior to their sense of social contractual commitment and social attachments. Laws are seen as required for the welfare of all, and for the protection of all people's rights. However, unjust rules are recognized, causing conflicts in integrating them.</p> <p>Universal ethical/moral principles are those of justice, the equality of human rights, and respect for the dignity of human beings as individual persons. A rational individual recognises the nature of morality, and has a sense of personal commitment to moral principles.</p>

The relevance of Kohlberg's levels of moral reasoning to the present study is three fold. First, expectations of reciprocating favours and mutual benefits elicit an implicit social rule of "you scratch my back and I'll scratch your back" in an equal exchange. Conforming to this social rule allows egos to attain desired rewards, corresponding to Stage 2 on the pre-conventional level.

Second, the desire to preserve relationships with strong ties requires personal intentions in meeting their expectations in order to be seen as a good person. Being good also means maintaining trust, loyalty, respect and gratitude. Thus, fulfilling strong ties' expectations of being honesty, reliable and discrete in order to be trusted by strong ties as depicted by the trust model in Figure 2.3 above calls for egos' moral judgment at Stage 3 on the conventional level.

Third, Gouldner's (1960) norm of reciprocity requires individuals' moral orientation to maintain social order by taking this moral norm as a social rule governing people's conformity. In other words, the act of reciprocating expectations of trusting behaviours elicits ego's respect for rules, corresponding to moral reasoning at Stage 4 on the conventional level.

In essence, the trust behaviours depicted in the proposed trust model involves the three stages of moral judgment on the pre-conventional and conventional levels, but not beyond. The logical progression from one stage to another would not fit the hypothesised cognitive behaviours of dyadic trust in the present context. People may draw on different levels of moral reasoning in their judgments of right or wrong in different situations (Perlman & Cozby, 1983). Therefore, this thesis suggests that in

the present context of maintaining mutual relationships and contributing to social order, business executives' moral reasoning may reflect a mixture of somewhat less or somewhat more mature levels up to Stage 4 on the conventional level.

How culture may affect moral judgment will be discussed in Chapter 7. In particular, Shweder's theories of cultural transmission of morality could be relevant to cultural differences in trust values between UK and HK business executives.

### 2.10 Summary

Since strong ties are on-going relations with repeated exchanges, we may expect that expectations of trusting behaviours for strong ties and weak ties would differ.

However, the same qualitative structure of the trust model was proposed for strong and weak ties in Figure 2.3, but the quantitative measures of levels of trust and expectations were predicted to differ. This implies that the same trust processes apply to both types of ties. This thesis has posited that the same fundamental behaviours of honesty, reliability and discretion are expected in strong and weak ties tie.

Nevertheless, the thesis has argued that trust in strong ties is higher than in weak ties, and therefore expectations of trusting behaviours will also be higher in strong ties.

Theoretically, it is important to compare strong and weak ties as well as levels of trust and expectations for both types of ties in spite of a lack of qualitative differences in the trust model's structure.

The central predictions of this thesis, shown in Figure 2.3 and discussed above can be summarised in the following hypotheses:

**H1**

*Ego's expectations of strong ties being honest, reliable, discreet, valuing mutual benefits and reciprocating favours will be higher than ego's expectations of weak ties.*  
(Ego = business executive)

**H2** It follows from H1 that:

*Ego's perception of strong ties' expectations of ego being honest, reliable, discreet, valuing mutual benefits and reciprocating favours will be higher than ego's perception of weak ties' expectations of ego.*

**H3**

*The trust level between business executives and their strong ties will be higher than that for weak ties.*

**H4**

*Expectations of honesty, reliability and discretion will be the fundamental expectations that influence business executives' trust in their strong ties and weak ties, and will also influence how they perceive their ties' trust in them.*

**H5**

*Ego's expectations of alters (strong ties or weak ties) and alters' expectations of ego as perceived by ego will be similar i.e. correlated.*

**H6**

*A cognitive process of reciprocating expectations of trusting behaviours may exist (refers to path B and D in Figure 3.1); an internalised moral norm of reciprocity may explain the motivating mechanism governing the process.*

Thus far, a trust model between business executives and their strong ties and weak ties has been proposed together with a set of hypotheses outlined above. The next chapter describes a study designed to test the theoretical trust model and the hypotheses.

### **A Study to Test the Theoretical Model of Trust**

The preceding chapter proposed a theoretical model of trust between business executives and their strong and weak ties. The trust model was posited to expand Blau's (1964) concept of reciprocating benefits or favours received in building trust and Butler's (1983, 1986) notion of reciprocity of trust to include reciprocity of other trusting behaviours. The trust model in Figure 2.3 depicts six relationships for experimental testing. This thesis posits that business executives' expectations of honesty, reliability and discretion will be the fundamental expectations that influence trust in their strong and weak ties, and may also influence how they perceive their ties' trust in them. Expectations of mutual trust and reciprocating favours will not be the fundamental expectations in this context. Following the notion of reciprocity of trust, this thesis proposes that a notion of meta-trust denotes expectations of reciprocity of trusting behaviours. i.e., reciprocating expectations of fundamental trusting behaviours, namely honesty, reliability and discretion, exists between business executives and their strong and weak ties. Moreover, it is proposed that business executives' expectations of strong ties being honest, reliable, discreet, valuing mutual benefits and reciprocating favours will be higher than their expectations of weak ties. Similarly, business executives' perception of their strong ties' expectations of them having these five aspects will be higher than their perception of weak ties' expectations of them. Further, we may expect that business executives' trust in their strong ties will be higher than their trust in their weak ties. Finally, it is posited that business executives' of their strong ties (or weak ties) and strong ties' expectations of business executives perceived by them will be similar.

This chapter presents an empirical study to test the set of hypotheses derived from the theoretical trust model. It begins by describing the research method, outlining the demographic profile of the participants, how the measures were designed to test the hypotheses and the trust model, and the analytic procedures. The research findings are then presented in three major sections. The first section presents analyses of levels of expectations. The second section describes the factor structure, and the third section presents results of structural equation modelling to test the hypothesised model fit to the data. The conceptual framework of the process of model fitting is summarised in the section of factor structure before the results are presented. Explanation of most commonly used fit indexes is presented in Appendix D.

### 3.1 Research Method

A self-report questionnaire was used to test the hypotheses. The participants recruited were given a choice to complete either a paper-and-pencil questionnaire or an electronic form on the Internet. Please see Appendix E for a copy of the questionnaire. The items that are relevant to the thesis are reported in the section below.

#### 3.1.1 Measures

Items were generated on the basis of the theoretical framework developed from the literature review presented in the preceding chapter. The questionnaire was piloted on

## Chapter 3

a small set of business executives in southern England to ensure that the measured items were comprehensible.

The final items consisted of 24 measures. Examples of the questionnaire items are listed in Table 3.1 below. The participants responded to a nine-point scale, anchored by “no expectation” (1), “moderate expectation” (5), and “extremely high expectation” (9). The items measured their expectations of their strong ties and weak ties and their perception of both their strong ties’ and their weak ties’ expectations of them. The core questions are highlighted as follows:

The proposed theoretical model of trust depicted in Figure 2.3 (see Section 2.6) guided the creation of the items. Zucker’s (1986) definition of trust as a set of expectations shared by all those involved in an exchange played a major influence of redefining interpersonal trust in Section 2.8 for the present study, and thus, developing the items. For example, the question stem “How much do I expect the following from my ties?” preceded five pairs of measures. The first pair assessed expectations of “reliability from my strong ties” and “reliability from my weak ties”. Similar pairs of items were structured for expectations of honesty, discretion, mutual benefits and reciprocation of favours. These items allowed direct comparison of expectations concerning strong and weak ties.

Similarly, the question stem “how much do my ties expect the following from me?” preceded five pairs of measures assessing the same five expectations. These ten items were intended to solicit participants’ perception of their ties’ expectations of them

## Chapter 3

being reliable, honest, and so forth. For example, a pair of measures was “my strong ties expect reliability” and “my weak ties expect honesty”.

Further, trust was measured by single items. For example, the item assessing trust in strong ties was “my level of trust in doing business with my strong ties is”. Responses were on a nine-point scale, from “none at all” (0) to “extremely high” (9).

The instructions of the questionnaire included definitions of strong ties and weak ties (see Appendix E). Participants were asked to respond to the items in the context of medium or large business transactions. They were also asked to complete a checklist concerning demographic information including two items assigning them to the following categories:

Category 1 = Business owners who own an equity stake of at least 5% or more in a business

Category 2 = Senior executives who have important external business relationships either with customers, suppliers, creditors and so forth but do not have an equity stake of 5% or more.

Table 3.1 Examples of Questionnaire Items Measuring Trust as Expectations

<p>How much do I expect the following from my ties? 1 = no expectation .... 5 = moderate expectation .... 9 = extremely high expectation</p> <p>Reliability from my strong ties Reliability from my weak ties Honesty from my strong ties Honesty from my weak ties Discretion from my strong ties in keeping sensitive matters confidential (e.g. about competitors, company or personal matters, etc.) Discretion from my weak ties in keeping sensitive matters confidential Mutual benefits from my strong ties Mutual benefits from my weak ties Reciprocation of favours from my strong ties (e.g. information, contacts, referrals, new business, advice, etc.) Reciprocation of favours from my weak ties</p> <p>How much do my ties expect the following from me? 1 = no expectation .... 5 = moderate expectation .... 9 = extremely high expectation</p> <p>My strong ties expect reliability My weak ties expect reliability . . .</p> <p>Trust was respectively measured with a single item asking participants on a nine-point scale: 1 = none at all ..... 9 = extremely high</p> <p>My level of trust in doing business with my strong ties is My level of trust in doing business with my weak ties is</p> <p>I think that my strong ties trust me I think that my weak ties trust me</p>
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### 3.1.2 Research Participants

Research participants were small business owners and senior executives (such as bankers, accountants and lawyers) who networked regularly at breakfast clubs and business dinners organised by professional institutions such as the Federation of Small Businesses, various Breakfast Clubs, Business Network International (BNI) and Business Referral Exchange (BRE).

The sample consisted of 110 participants who were recruited after promoting the present research at over fifty of these networking events within one hundred miles of Oxford. Data were collected from Jun 2000 to Aug 2001.

Of the 110 participants, there were 78 males with a mean age of 45.47 ( $SD = 9.38$ ), and 32 females with a mean age of 42.66 ( $SD = 9.64$ ). They all identified their main cultural identity as British with English as their native tongue. There were no gender differences<sup>1</sup> in the measures. Most of the 110 participants were reasonably educated. 31.8% of them had attained bachelor degrees, 27.3% had attained post-graduate qualification and 39.1% had attended secondary schools. Moreover, 77 of them were in category 1 and 33 were in category 2. 70% of them were small business owners.

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<sup>1</sup> There were gender differences in the means of five items: (1) "I expect reliability from my weak ties" [ $t(108) = -3.60$ , mean of males = 4.33, mean of females = 5.63,  $p < 0.01$ ], (2) "I expect honesty from my weak ties" [ $t(108) = -2.35$ , mean of males = 5.54, mean of females = 6.53,  $p < 0.05$ ], (3) "I expect mutual benefits from my weak ties" [ $t(108) = -2.44$ , mean of males = 3.94, mean of females = 4.94,  $p < 0.05$ ], (4) "My weak ties expect reliability" [ $t(108) = -2.45$ , mean of males = 6.73, mean of females = 7.69,  $p < 0.05$ ], and (5) "My level of trust in doing business with my weak ties" [ $t(108) = -2.15$ , mean of males = 5.69, mean of females = 6.53,  $p < 0.05$ ]. However, by applying a Bonferroni correction on 24 multiple comparisons, the significant level for the individual test became 0.002. Thus, these five items were not significant.

### 3.1.3 Analytic Procedures

The analyses included paired-samples t-tests, confirmatory factor analysis, and structural equation modelling (SEM) using a maximum likelihood approach to evaluate hypothesised models. Before the data were analysed, three procedures were carried out:

First, since the data was captured through a research web-site on the Internet and a paper-and-pencil survey, independent samples t-tests were carried out on all measured items to assess if there were any significant differences in the means of the scores collected using these two different methods. It was found that there were no significant differences when comparisons were made using the Bonferroni method.

Second, seven missing data were found in various unrelated parts of different questionnaires. Participants with missing data were recontacted to complete the missing data.

Further, participant case 22 did not reply and had one missing data point on the variable of 'I expect honesty from my weak ties', which was replaced by a mean score of 5.87. Replacing missing values with mean scores is one of the standard practices reviewed by Byrne (2001, p.290).

## Chapter 3

Third, it is important to ascertain if data violate the assumptions of multivariate normality<sup>2</sup> and measures of a continuous scale when using multivariate analyses such as factor analysis, multiple regression and structural equation modelling<sup>3</sup> (Tabachnick & Fidell, 1996; Bentler & Chou, 1988). The assumption of multivariate normality of the data was checked by examining pair-wise plots for linearity<sup>4</sup> and homoscedasticity<sup>5</sup>, skewness and kurtosis of the individual variables for normality, screening the measured variables for outliers<sup>6</sup>, both univariate and multivariate, and finally evaluating variables for multicollinearity<sup>7</sup> (The detailed steps are referred in chapter 4 of Tabachnick & Fidell, 1996).

In addition to the screening steps above, the AMOS software, which runs structural equation modelling, checks normality and assesses whether any departure from

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<sup>2</sup> Multivariate normality is the assumption that each variable and all linear combinations of the variables are normally distributed (Tabachnick & Fidell 1996, p. 70)

<sup>3</sup> SEM takes a confirmatory approach to the analysis of a structural theory, which is represented by causal relationships between observed variables and unobserved latent variables. In the modelling procedure, the causal processes under study are represented by a series of structural (i.e. regression) equations, which takes account of factor analysis and multiple regression simultaneously. In other words, SEM uses regression models to specify causal relationships among latent variables or between latent variables and observed variables. The aim is to test statistically the extent to which the hypothesised model is consistent with the data (Bentler, 1988).

<sup>4</sup> Linearity assumes that there is a straight-line relationship between two variables. It is assessed by inspection of bivariate scatterplots. If a scatterplot shows an oval-shape, both variables are normally distributed and linearly related.

<sup>5</sup> The assumption of homoscedasticity for normality is that the variability in scores for one continuous variable is roughly the same on all values of another variable. If the assumption of multivariate normality is met, the bivariate scatterplots between two variables are of roughly the same width all over with slightly wider width toward the middle.

<sup>6</sup> Univariate outliers are cases with an extreme value on one variable and multivariate outliers are cases with an unusual combination of scores on two or more variables. Bivariate scatterplots of various combinations of two variables can help identify multivariate outliers.

<sup>7</sup> Multicollinearity occurs when variables are very highly correlated (say 0.90 or above) in a correlation matrix. When this happens, two variables are measuring two similar things. Multicollinearity increases the uncertainty around the parameter estimates and therefore increases the standard errors. It poses logical and statistical problems unless one is doing analysis of structure using factor analysis, principal component analysis and structural equation modelling. If it is not analysis of structure, Tabachnick and Fidell (1996, p. 86) suggest that if two variables with a bivariate correlation of say 0.70 or more exist, one variable should be excluded in the analysis. Some programs (such as AMOS) compute squared multiple correlation (SMC) for the variables. SMC is calculated when it serves as a dependent variable

normality in the sample is statistically significant. For simplicity, the normality check is reported here after checking all other steps. A.1 in Appendix A shows Mardia's (1970) coefficient of multivariate kurtosis of 117.681 with a critical ratio<sup>8</sup> of 33.67, and the six multivariate outliers with their respective Mahalanobis distances<sup>9</sup> for the strong ties variables. A.2 shows the respective figures for the weak ties variables. Mardia's coefficient for weak ties was 43.580 with a critical ratio of 12.47. It was concluded that the strong tie data set was slightly to moderately multivariate non-normal because of six multivariate outliers, and the weak ties data set was slightly multivariate non-normal because of two multivariate outliers.

Case 67 was a common multivariate outlier in both strong and weak ties data. A combination of scores of case 67 posed the most serious problems of multivariate non-normality in six different bivariate scatterplots. The rest of the five outliers were relatively moderate in extremity in different sets of two or one scatterplots. Case 67 was a business owner/founder of a distributor company with 7 employees. Its new business was mainly generated on the Internet. His trust values of strong ties and weak ties were very different from the rest of the participants. Another participant (case 9) among the 110 cases also relied on the Internet to obtain new business. However, this participant's pattern of scores was within the normal distribution. It was decided to

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with the rest of the variables as independent variables in multiple correlation. If SMC is high, the variable is highly related to the others in the analysis and there is multicollinearity.

<sup>8</sup> The critical ratio here is the Mardia's coefficient divided by its standard error. If the appropriate distributional assumptions are met, this statistic has a standard normal distribution under the null hypothesis that the parameter has a population value of zero. For example, if an estimate has a critical ratio greater than 2.00, the estimate is significantly different from zero at the .05 level.

<sup>9</sup> Mahalanobis distance is the distance of a case furthest from the centroid of all remaining observations. The centroid is the point created by the means of all the variables. In the present data set, any case with a Mahalanobis distance in A.1 and A.2 greater than  $\chi^2(12) = 32.909$  at  $p < 0.001$  is a multivariate outlier. Note: 12 is the degree of freedom being equal to the total number of variables in each strong tie and weak tie data set (Tabachnick & Fidell, 1996, p. 94).

delete case 67 without loss of generalisability of results to the intended population.

Other multivariate outliers were retained in the data set. For the revised sample of 109 cases, Mardia's coefficient of multivariate kurtosis dropped by 36% to 74.787 (critical ratio = 21.30, see A.3) for strong ties and by 28% to 31.288 (critical ratio = 8.91, see A.4) for weak ties variables. Hence, after deletion of case 67, the data set of strong ties was slightly multivariate non-normal and the extent of non-normality of the weak tie data set was even less.

### **Problems of Multivariate Non-normality**

West et al. (1995) highlight the problems of moderate to severe non-normality. Since the extent of non-normality for the variables here were slight, three foreseeable problems are summarised. First, it may lead to slight underestimation of fit indexes such as Normed Fit Index (NFI, Bentler & Bonett, 1980), the Tucker-Lewis Index (TLI, Tucker & Lewis, 1973) and the Comparative Index (CFI, Bentler, 1990). The conceptual framework for these fit indexes is best presented later in this chapter under model evaluation of factor structure. Second, it may lead to slight underestimation of standard errors of the parameter estimates. If the underestimation is moderate to severe, the regression paths, and factor and error covariances will be statistically significant although they may not be in the population. Finally, the maximum likelihood estimator may yield  $\chi^2$  values that are slightly inflated when the sample size is small.

One common approach to handling the presence of multivariate non-normal data is to use a procedure called the bootstrap<sup>10</sup> (West et al., 1995; Zhu, 1997). Hence, the bootstrapping procedure was applied in structural equation modelling using maximum likelihood estimator requested in AMOS. Interpretation of the bootstrapped standard errors will be presented where it is relevant.

### 3.2 Results

Three types of results are presented in three sections. The levels of expectations were first compared between strong ties and weak ties. The results relating to the first three hypotheses are presented first, followed by other findings that were outside the three hypotheses. All the five expectations were then factor-analysed before an empirical assessment of the hypothesised trust model with strong ties and weak ties was carried out using structural equation modelling.

#### 3.2.1 Comparison of Levels of Expectations and Trust Levels

##### **Comparison of Expectations between Strong and Weak Ties**

Differences between expectations of strong ties and weak ties (and of strong and weak ties' expectations of participants) were analysed using paired-samples t-tests.

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<sup>10</sup> Byrne (2001, p. 268) explains that “the term bootstrap derives from the expression ‘to pull oneself up by the bootstraps’, reflecting the notion that the original sample gives rise to multiple additional ones”. The bootstrapping procedure involves randomly taking multiple subsamples of the same size from the original sample, with replacement, and providing data for investigation of the variability of parameter estimates and indexes of fit. The re-sampling procedure creates a large number (say 500) of multiple

Table 3.2 shows the first set of the results. The mean scores of all the five variables measuring business executives' expectations of their strong ties were significantly higher than those mean scores of their weak ties (*t-values* varied from 10.36 to 14.69,  $df = 108$ ,  $p < 0.001$ ). For example, 'I expect reliability from my strong ties' was significantly higher than 'I expect reliability from my weak ties' [ $t(108) = 14.69$ , ST mean = 7.08, WT mean = 4.74]. Hence, business executives' expectations of their strong ties being honest, reliable, discreet, valuing mutual benefits and reciprocation of favours are higher than their expectations of their weak ties as predicted by hypothesis one (H1).

The second set of results is summarised in Table 3.3. Again, the mean scores of all five variables measuring business executives' perception of their strong ties' expectations were significantly higher than the mean scores for their weak ties ( $df = 108$ ,  $p < 0.001$ ). For example, 'my strong ties expect reliability from me' was significantly higher than 'my weak ties expect reliability from me' (see table for relevant means). Hence, business executives' perception of their strong ties' expectations of them being honest, reliable, discreet, valuing mutual benefits and reciprocation of favours are higher than their perceptions of their weak ties' expectations of them supporting hypothesis two (H2).

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subsamples of the same size as the parent sample with replacement. The mean and variance of the bootstrapped sampling distribution can be estimated.

Chapter 3

Table 3.2 Means, Standard Deviations and Mean Differences of the Paired Samples of I Expect...from My Strong Ties and My Weak Ties

Variables	Mean	Mean Differences	t
Pair 1 I expect reliability from my STs	7.08 (1.26)	2.34	14.69***
I expect reliability from my WTs	4.74 (1.77)		
Pair 2 I expect honesty from my STs	7.69 (1.17)	1.82	10.59***
I expect honesty from my WTs	5.87 (2.01)		
Pair 3 I expect discretion from my STs	7.99 (1.17)	2.34	11.46***
I expect discretion from my WTs	5.65 (2.35)		
Pair 4 I expect Mutual benefits from my STs	6.25 (1.81)	1.99	10.60***
I expect mutual benefits from my WTs	4.26 (1.98)		
Pair 5 I expect reciprocation of favours from STs	5.94 (2.16)	2.06	10.36***
I expect reciprocation of favours from WTs	3.89 (1.94)		

Note: Numbers in parentheses are standard deviations. \*\*\* $p < .001$

Table 3.3 Mean, Standard Deviations and Mean Differences of the Paired Samples of My Strong Ties and My Weak Ties Expect ...

Variables	Mean	Mean Differences	t
Pair 1 My STs expect reliability from me	8.14 (0.89)	1.07	6.82***
My WTs expect reliability from me	7.06 (1.82)		
Pair 2 My STs expect honesty from me	8.29 (0.92)	.82	5.62***
My WTs expect honesty from me	7.48 (1.69)		
Pair 3 My STs expect discretion from me	8.36 (1.08)	1.08	7.20***
My WTs expect discretion from me	7.28 (1.85)		
Pair 4 My STs expect mutual benefits from me	5.75 (2.37)	1.26	5.99***
My WTs expect mutual benefits from me	4.50 (2.34)		
Pair 5 My STs expect reciprocation of favours from me	5.13 (2.40)	.94	4.90***
My WTs expect reciprocation of favours from me	4.18 (2.17)		

Note: Numbers in parentheses are standard deviations. \*\*\* $p < .001$

Furthermore, the mean score of ‘my trust level of doing business with STs’ ( $M = 7.89$ ,  $SD = 0.99$ ) was significantly higher than the mean score of ‘my trust level of doing business with WTs’ ( $M = 5.97$ ,  $SD = 1.86$ ,  $t(108) = 12.38$ ,  $p < 0.001$ ). Moreover, the mean score of ‘I think my STs trust me’ ( $M = 8.10$ ,  $SD = 0.90$ ) was also significantly higher than the mean score of ‘I think my WTs trust me’ ( $M = 6.67$ ,  $SD = 1.62$ ,  $t(108) = 10.31$ ,  $p < 0.001$ ). Therefore, hypothesis three (H3) was supported.

### Perceived Trust and Expectations

Table 3.4 shows a comparison of ‘My level of trust in doing business with my STs’ and ‘I think that my STs trust me’ and also that of weak ties using paired-samples t-test. The result suggested that the participants perceived their strong ties and weak ties trusted them significantly more than they trusted their ties (pair 1: -  $t(108) = 2.16$ ,  $p < 0.05$ ; pair 2: -  $t(108) = 4.02$ ,  $p < 0.001$ ).

Table 3.4 Comparisons of Trust Levels between Alters’ Trust in Egos Perceived by Egos and Egos’ Trust in Alters

	Mean	Mean Differences	t
Pair 1 My level of trust in doing business with my STs	7.89 (0.99)	-0.21	-2.16*
I think that my strong ties trust me	8.10 (0.90)		
Pair 2 My level of trust in doing business with my WTs	5.97 (1.86)	-0.70	-4.02***
I think that my weak ties trust me	6.67 (1.62)		

Note: Numbers in parentheses are standard deviations. \* $p < 0.05$ , \*\*\* $p < .001$ .

Furthermore, differences in mutual expectations between business executives and their strong ties were reviewed by subtracting the expectation score of ‘strong ties expect... from me’ from ‘I expect... from my strong ties’. The same procedure was applied to the data of weak ties.

Table 3.5 shows that the participants perceived that their strong ties had significantly higher expectations of reliability ( $\Delta mean = -1.06, t = -9.18, p < 0.001$ ), honesty ( $\Delta mean = -0.66, t = -5.95, p < 0.001$ ) and discretion ( $\Delta mean = -0.37, t = -2.97, p < 0.01$ ) of them than they expected of their strong ties. The same phenomenon was observed with weak ties. Participants perceived weak ties as having higher expectations (see Table 3.6) of them than they had of their weak ties. This finding may suggest that the business executives were presenting themselves in an unrealistically positive light as people who could be trusted more than their ties. Alternatively, it may be that they were unreasonably suspicious of their ties.

### Chapter 3

**Figure 3.5 Differences in Mutual Expectations between Business Executives and their Strong Ties**

Variables	Mean	Mean Differences	t
Pair 1 I expect reliability from my STs	7.08 (1.26)	-1.06	-9.18***
My STs expect reliability from me	8.14 (0.89)		
Pair 2 I expect honesty from my STs	7.69 (1.17)	-0.66	-5.95***
My STs expect honesty from me	8.29 (0.92)		
Pair 3 I expect discretion from my STs	7.99 (1.17)	-0.37	-2.97**
My STs expect discretion from me	8.36 (1.08)		
Pair 4 I expect Mutual benefits from my STs	6.25 (1.81)	0.50	2.46*
My STs expect mutual benefits from my me	5.75 (2.37)		
Pair 5 I expect reciprocation of favours from STs	5.94 (2.16)	0.82	4.22***
My STs expect reciprocation of favours from me	5.13 (2.40)		

Note: Numbers in parentheses are standard deviations. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 3.6 Differences in Mutual Expectations between Business Executives and their Weak Ties

Variables	Mean	Mean Differences	t
Pair 1 I expect reliability from my WTs	4.74 (1.77)	-2.32	-12.12***
My WTs expect reliability from me	7.06 (1.82)		
Pair 2 I expect honesty from my WTs	5.87 (2.01)	-1.61	-7.87***
My WTs expect honesty from me	7.48 (1.69)		
Pair 3 I expect discretion from my WTs	5.65 (2.35)	-1.62	-8.18***
My WTs expect discretion from me	7.28 (1.85)		
Pair 4 I expect mutual benefits from my WTs	4.26 (1.98)	-0.24	-1.01 n.s.
My WTs expect mutual benefits from me	4.50 (2.34)		
Pair 5 I expect reciprocation of favours from WTs	3.89 (1.94)	-0.29	-1.42 n.s.
My WTs expect reciprocation of favours from me	4.18 (2.17)		

Note: Numbers in parentheses are standard deviations. \*\*\* $p < .001$ , n.s. is non-significant.

### 3.2.2. Factor Structure

Before the results of the factor structure are presented, a conceptual understanding of factor structure and model evaluation using the  $\chi^2$  goodness of fit statistics and fit indexes is essential in the context of structural equation modelling. The concept of factor structure in a measurement model is presented below.

#### **Measurement Model and Structural Model**

A general structural equation model combines elements of both factor analysis and path analysis, and consists of two components, a measurement model and a structural model (Byrne; Agresti & Finlay, 1997). The measurement model resembles factor analysis, defining a set of unobserved factors from the observed variables. The covariation among a set of observed variables is examined in order to derive their underlying latent constructs (i.e. factors). The structural model resembles path analysis, specifying regression models for the factors derived in the measurement model and identifying hypothesised causal relationships among the factors. A general structural model specifies how a particular latent variable directly or indirectly influences or causes changes in the values of other latent variables based on a theory hypothesised by a researcher. Such a structural model is then evaluated for goodness of fit tests in a confirmatory approach. Moreover, one or more of the latent variables are specified as dependent (response) variables and the others are specified as independent (explanatory) variables. A structural model differs from ordinary path analysis in that the structural model approach allows the fitting of models with two-way causation, in which latent variables may be regressed on

## Chapter 3

each other (Agresti & Finlay, 1997). Hence, structural equation modelling is a powerful approach to the analysis of factor structures and path analysis simultaneously.

Further, there are two types of factor analysis that may be used for deriving a measurement model, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA proceeds in an exploratory manner to determine how and to what extent the observed variables are related to their underlying factors. This exploratory approach is used when we have no prior knowledge that the items measure the intended factors. In contrast, CFA is considered when we have some knowledge of the underlying latent variable structure. This prior knowledge can be based on theory, previous empirical research or both. A priori specification of a CFA structure can then be tested statistically in a confirmatory approach.

### **Confirmatory Factor Analysis for the Present Study**

In the preceding chapter, this thesis posited that the expectations of reliability, honesty and discretion correlate with each other and form a factor since they are expectations concerning qualities of strong and weak ties. Moreover, this thesis also posited that the expectations of mutual benefits and reciprocating favours correlate with each other and form a factor since they are expectations involving strong and weak ties to return benefits and favours, which are characteristics of interaction in an exchange.

## Chapter 3

Thus, we would expect the three measures relating to “I expect reliability from my strong ties”, “I expect honesty from my strong ties”, and “I expect discretion from my strong ties” to form a factor, and the three measures relating to “my strong ties expect reliability from me”, “my strong ties expect honesty from me”, and my strong ties expect discretion from me” also to form a factor. Similarly, correlations of the corresponding measures for weak ties are also predicted. Figure 3.1 shows the hypothesised factor structure for strong ties in a path diagram<sup>11</sup>, which comprises four factors: (1) I expect of my STs as factor 1 (labeled F1) with three independent measures of reliability (X1), honesty (X2) and discretion (X3), loaded on the factor, (2) I expect of my STs as factor 2 (labeled F2) with two independent measures of mutual benefits (X4) and reciprocating favours (X5), (3) My STs expect of me as factor 3 (labeled F3) with two independent measures of mutual benefits(X6) and reciprocating favours (X7), and (4) My STs expect of me as factor 4 (labeled F4) with three measures of reliability(X8), honesty (X9) and discretion (X10). Some conventional notation for SEM that appears in the Figure 3.1 is highlighted below.

The circles represent unobserved latent variables (i.e. factors) and the rectangles represent measured variables. A line with a single-headed arrow indicates a hypothesised direct relationship, assuming that the variable at the base of arrow ‘causes’ the variable at the head of arrow. A line with a double-headed arrow signifies unanalysed association between two variables for the purpose of model testing. In model specification, every variable, latent or measured, is either an independent variable or a dependent variable.

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<sup>11</sup> A path diagram is a pictorial representation of a system of simultaneous equations. It presents a picture of the relationships between variables, observed or unobserved, that is assumed to hold (Bollen, 1989).

## Chapter 3

Shading indicates that the variable is a dependent variable<sup>12</sup>, which has at least one line with a single-headed arrow pointing to it. The independent variables are F1, F2, F3, F4, the residual<sup>13</sup> terms of the latent variables (“disturbances” labeled D1, D2, D3 and D4) and all the error terms (labeled E3 for example) for the measured variables. The asterisks indicate parameters to be estimated. These are the regression coefficients, the variances and covariances of the independent variables. These parameters were freely estimated or fixed to a value of 1. The number 1 in the diagram indicates that a regression coefficient was set to the value of 1 for scaling purpose<sup>14</sup>.

Further, Figure 3.1 depicts possible correlation between the four factors for the purpose of model fitting using AMOS. It was also assumed that error terms (E3 to E12) were uncorrelated.

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<sup>12</sup> At the matrix algebra level, a set of simultaneous equations according to the path diagram can be generated. Without going into the details of the matrix algebra, it is important to understand that the construction of structural equation models or path analyses is to measure the relative contribution of different independent variables to some dependent variables (Bollen, 1989).

<sup>13</sup> A residual term is a measure of error of prediction, which is the difference between the predicted and obtained values. There is an important distinction between a disturbance (e.g. D1) and an error term (e.g. E3) although they are both unexplained variation in the prediction. A disturbance signifies errors in the equation prediction of a latent variable from another latent variable. An error term is associated with observed variables and represents measurement errors, which can be random due to psychometric measurement or non-random due to the uniqueness of the characteristics of the measured variable (Byrne 2001). For example, people may lie about their age in certain surveys.

<sup>14</sup> In Figure 3.1, the first equation on the diagram is  $X1 = a * F1 + \text{path coefficient} * E3$ . Similarly, the rest of the nine equations are written in the same manner by taking the respective variable names (see A.7 in Appendix A under Interpretation of AMOS Output Figures). Since raw scores do not exist for latent variables, it is a common option to assign an arbitrary value of 1 to a path linking the latent variable to one of its observed variable for scaling reason. As a result, the latent variable is expressed in units based on the observed variable (Loehlin, 1998, p. 31). Hence,  $a$  is equal to 1 in this equation. Another common option is to solve for the latent variables in standard score form, but this is not the approach being taken here. Moreover, the path coefficients of all the error variances such as E3 in the diagram are also fixed to the value of 1 for the same scaling reason. Any variation in the path coefficients will be distributed to their respective error variances.

### Chapter 3

The hypothesised factor structure for weak ties is identical to the one shown in Figure 3.1, except that the variables are related to weak ties. For simplicity, it is not shown here.

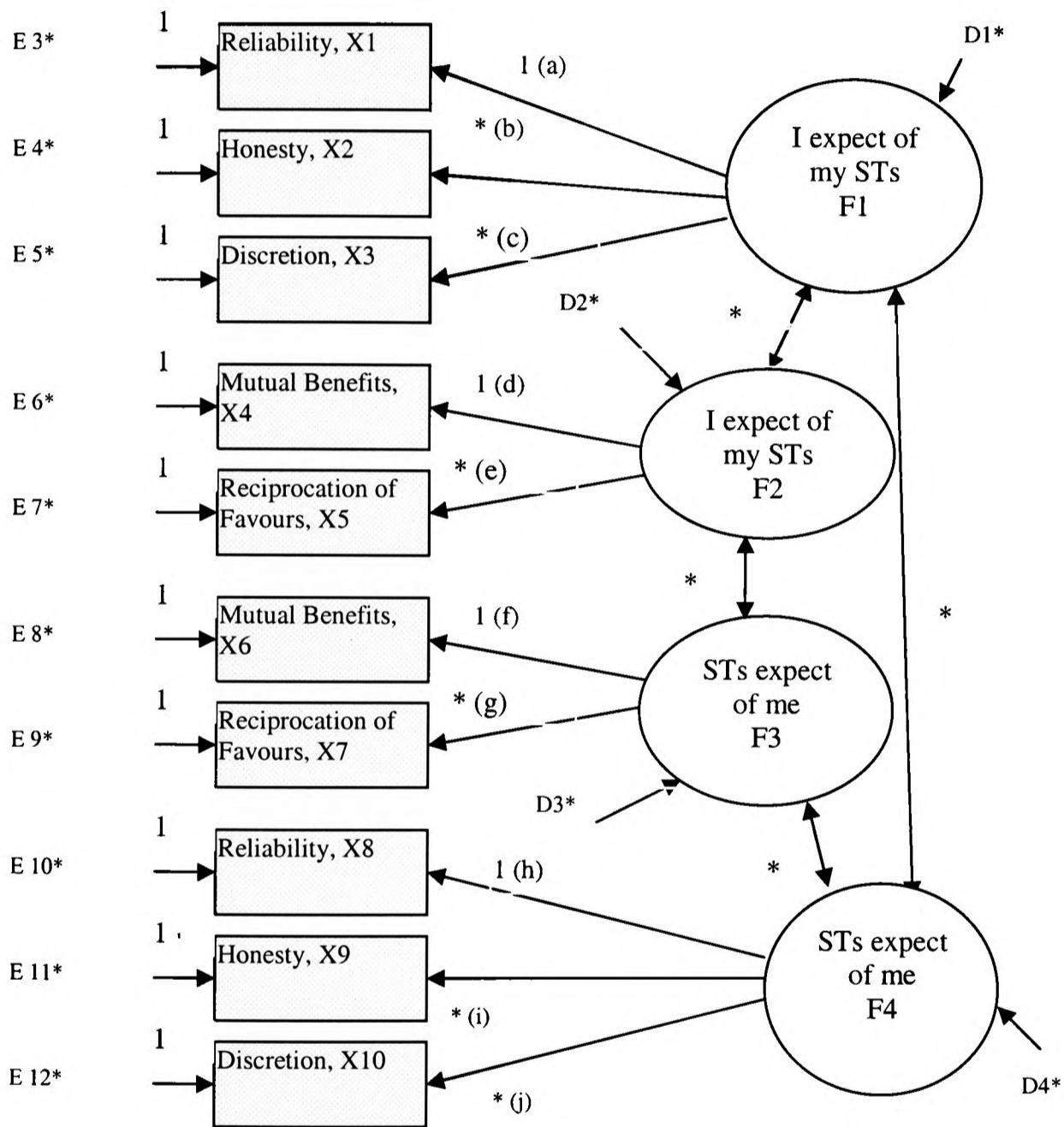


Figure 3.1 The Hypothesised Factor Structure for Business Executives and their Strong Ties

### **Conceptual Framework of Model Evaluation**

The hypothesised factor structure models for strong ties and weak ties were respectively evaluated by structural equation modeling using AMOS graphic employing the maximum likelihood (ML)<sup>15</sup> estimation method. SEM analyses the covariance structure of the measured variables, utilising the correlation coefficients and the standard deviations. Table 3.7 displays all correlation coefficients between the measured variables for strong ties and weak ties.

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<sup>15</sup> Use of maximum likelihood (ML) method assumes four conditions to be met. (1) The sample is large (i.e. asymptotic), (2) the distribution of the observed variables is multivariate normal, (3) the scale of the observed variables is continuous, and (4) the hypothesised model is valid (Byrne, 2001, p. 71).

Table 3.7 Correlation Coefficients of the Measured Variables by Strong Ties and Weak Ties

	1	2	3	4	5	6	7	8	9	10	11
<b>Correlation Matrix with Strong Ties (N = 109)</b>											
1. I expect reliability from my STs	.50***										
2. I expect honesty from my STs	.50***	.44***									
3. I expect discretion from my STs	.18 <sup>†</sup>	.23*	.23*								
4. I expect Mutual benefits from my STs	.31**	.23*	.30**	.61***							
5. I expect reciprocation of favours from STs	.42***	.47***	.39**	.18 <sup>†</sup>	.13						
6. My STs expect reliability	.37***	.50***	.24*	.12	.13	.82***					
7. My STs expect honesty	.37***	.37***	.35***	.17	.11	.65***	.68***				
8. My STs expect mutual benefits	.20*	.13	.03	.52***	.61***	.12	.15	.07			
9. My STs expect reciprocation of favours	.17	.14	.06	.58***	.61***	-.02	.04	-.03	.81***		
10. My STs expect reciprocation of favours	.29**	.41***	.22*	.22*	.19 <sup>†</sup>	.47***	.48***	.41***	.21*	.16	
11. I think that my strong ties trust me	.27**	.52***	.29**	.25**	.25**	.42***	.45***	.39***	.08	.15	.43***
12. My level of trust in doing business with my STs											
<b>Correlation Matrix with Weak Ties (N = 109)</b>											
1. I expect reliability from my WTs	.66***										
2. I expect honesty from my WTs	.58***	.70***									
3. I expect discretion from my WTs	.20*	.28**	.30**								
4. I expect Mutual benefits from my WTs	.22*	.24*	.15	.61***							
5. I expect reciprocation of favours from WTs	.38***	.27**	.42***	.14	.02						
6. My WTs expect reliability	.38***	.35***	.41***	.06	.02	.83***					
7. My WTs expect honesty	.24*	.36***	.54***	.17 <sup>†</sup>	-.03	.55***	.61***				
8. My WTs expect discretion	.14	.21*	.09	.36***	.40***	.07	.07	.14			
9. My WTs expect mutual benefits	.14	.21*	.10	.37***	.45***	.07	.09	.16	.88***		
10. My WTs expect reciprocation of favours	.33***	.39***	.36***	.17 <sup>†</sup>	.07	.51***	.55***	.39***	.05	.06	
11. I think that my weak ties trust me	.27**	.46***	.40***	.33**	.26**	.31**	.31**	.25**	.09	.10	.46***
12. My level of trust in doing business with my WTs											

<sup>†</sup>  $p < .075$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

At this point, it is important to capture the essential statistical framework of the model fitting process using chi-square as a goodness of fit statistic. SEM is sometimes called covariance structure modelling. It evaluates how well the restricted covariance matrix  $[\Sigma(\theta)]$  implied by the hypothesised model fits the sample covariance matrix (S) of observed variable scores.  $\Sigma$  (sigma) is the population covariance matrix and  $\theta$  (theta) is a vector that comprises the model parameters. In SEM, the null hypothesis ( $H_0$ ) being tested is that the postulated model holds in the population where the sample is drawn, i.e.  $\Sigma = \Sigma(\theta)$ . Any discrepancy [i.e.  $\Sigma - \Sigma(\theta)$ ] between the two is represented by the residual covariance matrix. When  $H_0$  is true,  $\Sigma - \Sigma(\theta) = 0$ . The objective of the  $\chi^2$  test identifies the extent to which all residuals in  $\Sigma - \Sigma(\theta)$  are zero. Since on average, the sample covariance matrix S equals the population covariance matrix  $\Sigma$  (Bollen, 1989), in practice a specified model is fitted to a sample covariance matrix (MacCallum et al., 1996). Hence, the  $\chi^2$  test is effectively testing how far the discrepancy of  $S - \Sigma(\theta)$  departs from zero. The objective is to minimise the discrepancy function,  $F_{\min}$ , such that  $F_{\min} = [S - \Sigma(\theta) = \text{minimum}]$ . Smaller values of  $\chi^2$  indicate better fit. When  $\chi^2 = \text{zero}$ ,  $F_{\min} = \text{zero}$  and that the residual matrix would contain all zeros. The evaluated model becomes the perfectly fitted saturated model<sup>16</sup>. The  $\chi^2$  value of zero indicates a perfect fit. Moreover, the  $\chi^2$  test uses the test statistic T such that  $T = (N - 1) F_{\min}$ , where N is the sample size. The T statistic has an asymptotic (large sample)  $\chi^2$  distribution. The  $H_0: \Sigma = \Sigma(\theta)$  is rejected if the  $\chi^2$  value exceeds a  $\chi^2$  value in the  $\chi^2$  distribution at an  $\alpha$  level of significance. The  $\alpha$  level of significance is generally set at 0.05. Hence, the probability value in the  $\chi^2$  test represents the likelihood of obtaining a  $\chi^2$  value that exceeds the  $\chi^2$  value when  $H_0$  is

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<sup>16</sup> The saturated model is one in which the number of estimated parameters equals to the number of

true. The higher the  $p$  value ( $p > 0.05$ ), the closer is the fit between the postulated model and the sample data. If  $p < 0.05$ , there is a significant discrepancy between the model and the data, and the  $\chi^2$  value is significant (Byrne, 2001). The model should be rejected and modified for further evaluation.

Furthermore, the T statistic can be derived from various estimation methods that vary in the degrees of sensitivity to the assumptions of the distribution. Hu and Bentler (1999) note that the T statistic derived from the maximum likelihood (ML) method<sup>17</sup> under the multivariate normality assumption is the most widely used statistic for assessing model fit. The ML method was employed in the present thesis.

In the present experiment, the sample size of 109 is not large. Although the assumption of the T statistic [i.e.  $\Sigma = \Sigma(\theta)$ ] is one of arbitrary large samples, this is not true in practice (Hu & Bentler, 1995, p. 87). As Tanaka (1987, p. 135) points out, “‘large sample’ results buy some degree of confidence (but not certainty) where N is large, but do not provide a guideline about when sample sizes are large enough”.

Strategies for dealing with relatively small samples will be discussed after introducing a number of fit indexes below.

In determining the overall fit of the hypothesised model to the sample data, researchers have developed a number of goodness of fit indexes in the past two

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variances and covariances in the covariance matrix. It is the least restricted model.

<sup>17</sup> The likelihood is the probability of the data given the model, which is the product over all the rows of the probability of each row of data, say  $A_1, A_2, \dots$  to  $A_n$  in a vector. This depends on path coefficients and variances. We find the coefficients and the variances, which give us the biggest likelihood. Those

decades after recognising the limitations of the  $\chi^2$  test. Since the  $\chi^2$  statistics equals  $(N - 1) F_{\min}$ , the value of  $\chi^2$  tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001). That is to obtain  $p > 0.05$  is unlikely for large samples. Therefore, additional fit indexes are reported to supplement the  $\chi^2$  statistics. A summary of the acceptable levels of the most commonly used fit indexes is listed below. Detailed explanation of the indexes is provided in Appendix D under D.1.

### $\chi^2$ per degree of freedom ratio ( $\chi^2 / df$ )

The ratio should be close to one for correct models. When  $\chi^2 / df = 1$ , the model is well fitted.

### Goodness of Fit Index (GFI)

GFI is an absolute index that directly assesses how well a predicted model reproduces the sample data. GFI greater than 0.9 indicates an acceptable fit.

### Normed Fit Index (NFI)

NFI is obtained by computing the ratio of the  $\chi^2$  of the model being evaluated and the  $\chi^2$  of the independence model<sup>18</sup> as the baseline model, which is then subtracted by one.

NFI greater than 0.9 indicates an acceptable fit.

However, Hu and Bentler (1995, p. 89) note that NFI is not a good indicator for evaluating model fit when the sample size is small. NFI tends to give lower values

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values are our estimates. Thus, maximum likelihood estimate is to make this probability the biggest possible by changing the parameters of the equations.

under conditions of small N. In the present thesis, NFI is reported but the values tend to be around 0.90. Less reliance was placed on the NFI value than other fit indexes in model evaluation.

### Comparative Fit Index (CFI)

CFI is calculated by computing the noncentrality parameter estimate for the model being evaluated and that of the independence model as the baseline model. There is no systematic bias when the sample size is small (Bentler, 1990). CFI values close to 1 indicate a very good fit. Hu and Bentler (1999) propose a cut-off value of 0.95.

### Tucker-Lewis Index (TLI) or NNFI

TLI is also known as Bentler-Bonett non-normed fit index. A cut-off value close to 0.95 indicates a good fit, and a value close to 1 indicates a very good fit (Hu & Bentler, 1999).

### Root Mean Square Error Approximation (RMSEA)

RMSEA provides an error of approximation that increases as the covariance matrix implied by the model being evaluated and the population covariance matrices progressively differ from one another. RMSEA is expressed per degree of freedom. RMSEA of about 0.5 or less would indicate a close fit of the model, and of about 0.8 or less would indicate a reasonable error of approximation (Brown & Cudeck, 1993).

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<sup>18</sup> The independence model is one in which all correlations among the variables are zero. All relational paths are fixed to zero and only variances are estimated (Hoyle, 1995). It is the most restricted model and most typically used as a baseline model. It is sometimes called a null model (Hu & Bentler, 1995).

### **Strategies for Dealing with Relatively Small Samples**

The main concern here is the sensitivity of the fit indexes to the sample size. Fan, Thompson and Wang (1999) carried out a simulation study to investigate the effects of sample size, estimation method and model specification on fit indexes. They found that “sample size<sup>19</sup> condition strongly influenced GFI. GFI tends to be smaller when sample size is small. However, RMSEA, CFI and TLI (or NNFI) were the least sensitive to sample size” (p. 73). Overall, there are strategies to be taken to overcome the issue of the small sample size:

First, both the statistical  $\chi^2$  test and a combination of descriptive fit indexes are assessed in evaluation of competing models preferably as nested models. In model testing, AMOS allows two models to be evaluated as nested models at the same time. An example of such model nesting may involve the specification of two models that differ from each other only with respect to the addition or deletion of a single path (Tanaka, 1987). Joreskog (1974) originally suggested the strategy of nested competing models. However, assessment of competing models was not applied in the present thesis. The two approaches outlined below are more useful.

Second, simpler rather than complex models are postulated. The general aim is to find a parsimonious model, which explains the most variance in the dependent variable containing the fewest number of independent variables. Browne and Cudeck (1993, p. 138) explain that “in multiple regression, it is known that if the sample is small, overall error is generally reduced by making use of a smaller number of predictors

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<sup>19</sup> The sample sizes were 100, 200, 500 and 1,000 in the simulation study.

than if the sample is large. A similar principle applies in the analysis of covariance structures. If the sample is small, a more accurate representation of the population covariance matrix can be obtained from an oversimplified model than from a more complex model”.

Third, Hu and Bentler (1995) suggest an additional descriptive fit index, the standardised root mean square residual<sup>20</sup> (SRMR), to accompany reports of model fit. SRMR is the average discrepancy between the observed correlation matrix<sup>21</sup> and the model-reproduced correlation matrix. They note that if the SRMR is very small, say 0.05 or less, “the model is good at accounting for the correlations, no matter what the  $\chi^2$  test or fit indexes seem to imply” (Hu & Bentler 1995, p. 98). If the discrepancy is 0.10, it means that the model is only marginally wrong for some variables. If the discrepancy is 0.40, it explains the correlation matrix to within an average error of 0.40 and that the model is not explaining some of the correlation well at all (Hu & Bentler, 1995). Hu and Bentler (1999) recommend a cut-off value close to 0.08 for SRMR.

Therefore, the present thesis will report the  $\chi^2$  test statistics and several fit indexes for each estimated model under assessment. The fit indexes are  $\chi^2 / df$ , Goodness of Fit Index (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucker-Lewis

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<sup>20</sup> The standardised root mean square residual (SRMR) is produced in AMOS macro and the unstandardised RMR is automatically produced in AMOS table output. The unstandardised RMR is the average residual value derived from the fitting of the variance-covariance matrix for the hypothesised model  $\Sigma(\theta)$  to the variance-covariance matrix of the sample data S. It is difficult to interpret unstandardised RMR. On the contrary, SRMR is the average value across all standardised residuals and ranges from zero to 1.00 (Hu & Bentler, 1995).

Index (TLI), RMSEA, and standardised root mean square residue (SRMR), although NFI values were mostly around 0.9 in model fitting in the present thesis.

### **Model Evaluation of Hypothesised Factor Structures for Strong and Weak Ties**

The conceptual framework of model evaluation and strategies of dealing with small sample size have been explained. The present section proceeds to assess the hypothesised factor structure models for strong ties and weak ties. Both hypothesised models were slightly modified after deleting the correlation path between factor F3 and factor F4 (in Figure 3.2) that was non-significant for reasons of parsimony (Byrne, 2001, p. 76). Two estimated factor structure models were obtained, one for strong ties and another for weak ties. Both models had an adequate fit to the sample data. The bootstrap procedure was applied on 1,000 samples initially<sup>22</sup>. Below is a summary of the essential fit statistics for each estimated model.

#### Factor Structure for Strong Ties

Figure 3.2 shows the estimated factor structure model for strong ties with a non-significant  $\chi^2 (31) = 37.76, p = 0.19, \chi^2 / d.f. = 1.22$ , Goodness of Fit Index (GFI) = 0.94, Normed Fit Index (NFI) = 0.94, Comparative Fit Index (CFI) = 0.99, Tucker-Lewis Index (TLI) = 0.98, root mean square error of approximation (RMSEA) = 0.045 (the lower bound was 0.000 and the upper bound was 0.089 at 90% confidence

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<sup>21</sup> Hu and Bentler (1995, p. 98) explain that evaluating residuals is “best done in the metric of the correlation matrix, not the covariance matrix, because correlations are always in the range of +1 and -1 and, therefore, are easily interpreted.”

<sup>22</sup> In the bootstrap procedure, a bootstrap sample of 1,000 is normally chosen initially and AMOS will advise how many bootstrap samples within 1,000 that the model fits better. Then, the bootstrap procedure is re-run on the new sample number in order to give the AMOS output figures with new standard errors.

interval), and standardised root mean square residual (SRMR) = 0.08. The relevant AMOS outputs are presented in Appendix A as A.5 and A.6.

Interpretation of the key AMOS output figures including the Bollen-Stine  $p$  value and the bootstrap critical  $\chi^2$  value is presented in A.7.

Overall, the bootstrap procedure slightly changed the result of the model fit. The double-headed path between F1 and F2 was found to be near significant (the bootstrapped  $p = 0.054^{23}$ ). Therefore, the estimated factor structure for strong ties (Figure 3.2) differed from the hypothesised factor structure (Figure 3.1) by having the two double-headed paths between F1 and F2, and between F3 and F4 being non-significant.

### Factor Structure for Weak Ties

Figure 3.3 shows the estimated factor structure model for weak ties with a non-significant  $\chi^2 (31) = 42.64, p = 0.08, \chi^2/d.f. = 1.38$ , Goodness of Fit Index (GFI) = 0.93, Normed Fit Index (NFI) = 0.94, Comparative Fit Index (CFI) = 0.98, Tucker-Lewis Index (TLI) = 0.97, root mean square error of approximation (RMSEA) = 0.059 (the lower bound was 0.000 and the upper bound was 0.099 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.08. The relevant AMOS outputs are presented in Appendix A as A.8 and A.9.

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<sup>23</sup> After the bootstrap procedure, a new z score for significant test was calculated. The bootstrapped z score = bootstrapped mean / bootstrap SE = 0.228 / 0.118 (in A.6) = 1.93. Reading from the normal curve probability table, we have the bootstrapped  $p = 0.0536$ .

## Chapter 3

Again, the bootstrap procedure slightly changed the result of the model fit with the double-headed path between F1 and F2 to be found non-significant with the bootstrapped  $p = 0.08$ <sup>24</sup>. Similarly, the estimated model for weak ties (Figure 3.3) differed from the hypothesised model (Figure 3.1) by having the two double-headed paths between F1 and F2, and F3 and F4 being non-significant.

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<sup>24</sup> The bootstrapped z score =  $0.504 / 0.290 = 1.74$ . From the table, the bootstrapped  $p = 0.08$ .

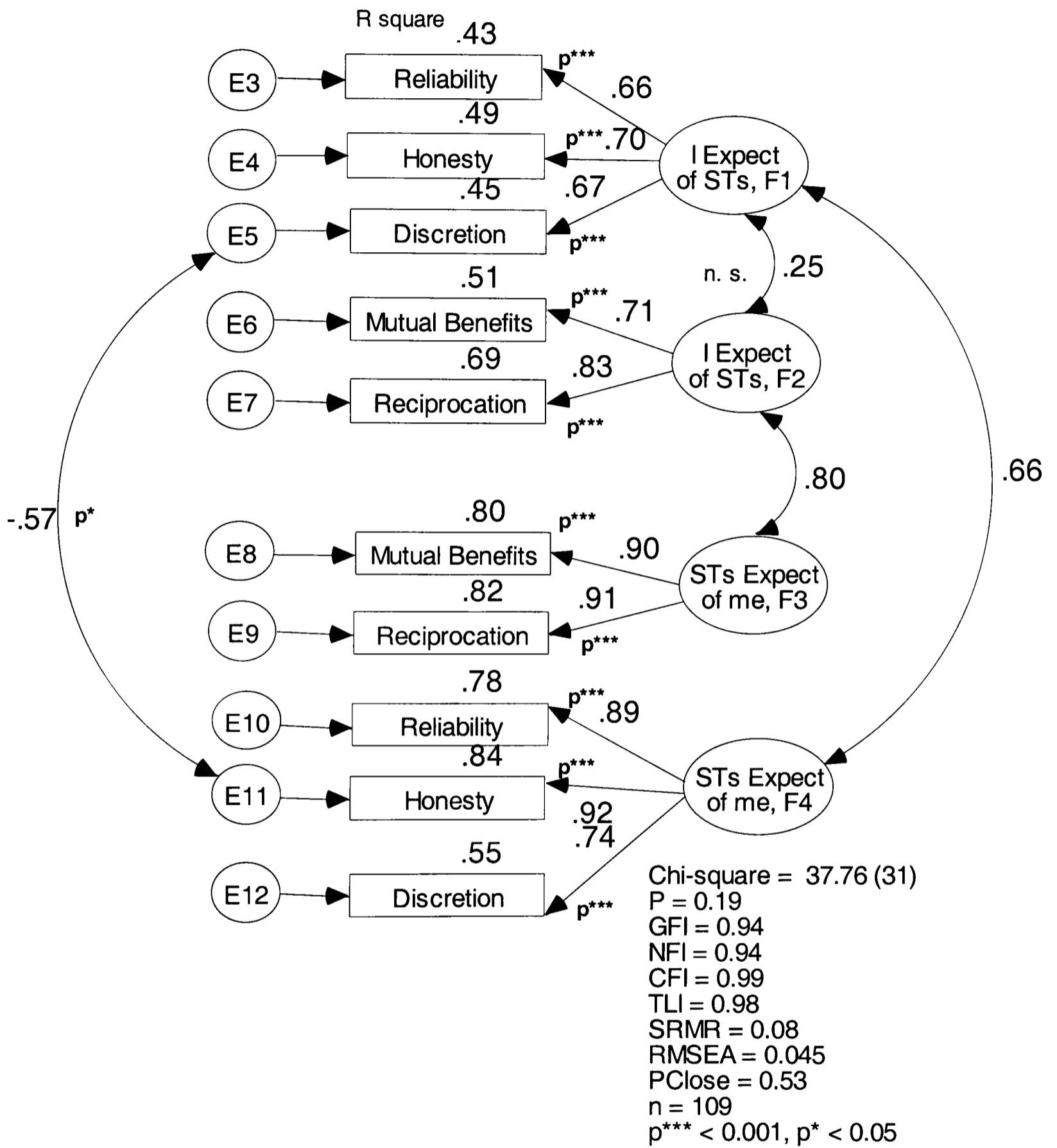


Figure 3.2 An Estimated Model of the Factor Structure for Strong Ties

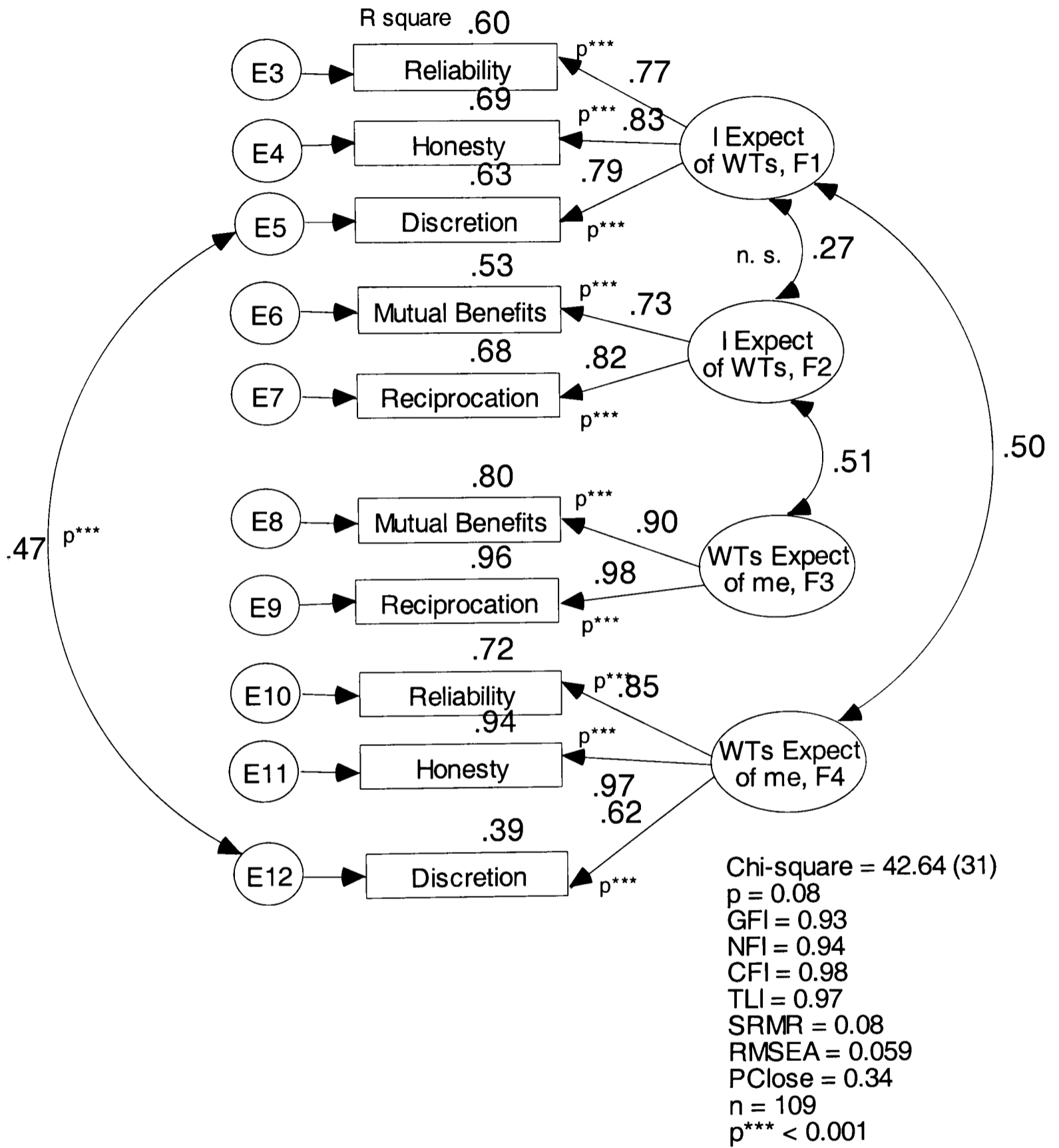


Figure 3.3 An Estimated Model of the Factor Structure for Weak Ties

### 3.2.3 Empirical Testing of the Theoretical Model of Trust

The estimated models of the factor structures for strong ties and weak ties were presented in the previous section. This section aims to examine the theoretical trust model by firstly proposing a hypothesised trust model of strong ties and weak ties to be evaluated by using the ML estimation method and applying the bootstrap procedure.

#### **The Hypothesised Trust Model**

In order to test the theoretical model of trust proposed in the previous chapter, a hypothesised model for the strong tie data is specified in a path diagram in Figure 3.4. The factor structure of strong ties presented above is shown in the path diagram. Since the double-headed path between F1 and F2 was found to be near significant, the path was left in the hypothesised model for the purpose of evaluation. The hypothesised model for weak ties is identical to Figure 3.4 and is not drawn here. In order to test hypothesis four (H4)<sup>25</sup>, the two paths from the latent variables of F2 and F3 to the respective dependent variables of ‘my trust level in doing business with STs, X11’ and ‘I think my STs trust me, X12’ are not drawn in the hypothesised model. In other words, the path coefficients were assumed to be zero. By convention, zero path coefficients are represented by the absence of a line in the diagram.

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<sup>25</sup> H4: Expectations of honesty, reliability and discretion will be the fundamental expectations that influence business executives’ trust in their strong ties and weak ties, and will also influence how they perceive their ties’ trust in them.

### **Model Evaluation**

The two paths being tested for significance (F2 to X11 and F3 to X12) were found to be non-significant in the model evaluation. Factors F2 and F3 were, therefore, deleted for reasons of parsimony (Byrne, 2001) in order to derive the final estimated model. After further minor modification of the hypothesised model, two estimated models of strong ties and weak ties respectively were obtained, which had an adequate fit to the sample data.

#### Trust Model for Strong Ties

Figure 3.5 shows the estimated trust model for business executives and their strong ties with a non-significant  $\chi^2 (18) = 21.65, p = 0.25, \chi^2 / df = 1.20$ , Goodness of Fit Index (GFI) = 0.95, Normed Fit Index (NFI) = 0.95, Comparative Fit Index (CFI) = 0.99, Tucker-Lewis Index = 0.99, root mean square error of approximation (RMSEA) = 0.043. (The lower bound was 0.000 and the upper bound was 0.100 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.05. The relevant AMOS outputs are presented in Appendix A as A.10 and A.11.

Overall, the bootstrap procedure did not change the result of the model fit. The estimated trust model of strong ties (Figure 3.5) differed from the hypothesised trust model (Figure 3.4) by deleting factors F3 and F4 as explained earlier and deleting the two paths, m and n, which were found to be non-significant.

The estimates of the path coefficients in Figure 3.5 are presented in standardised coefficients<sup>26</sup>. The R square figures are the square multiple correlations<sup>27</sup>.

Accordingly, the present model explained 36% of the variance associated with 'my trust level in doing business with strong ties' and 28% of the variance associated with 'I think my strong ties trust me'. Moreover, 60% of the variance associated with 'I expect honesty of my STs' was accounted for by the factor of 'I expect of my STs'. Similarly, 83% of the variance associated with 'My STs expect honesty of me' was accounted for by the factor of 'My STs expect of me'. In comparison with the expectations of reliability and discretion, expectation of honesty was the expectation that gave the highest variance accounted for by the two factors, F1 and F4. Expectation of reliability gave the second highest variance of 40% and 79% respectively accounted for by the two factors.

### Trust Model for Weak Ties

Figure 3.6 shows an estimated model between business executives and their weak ties with a non-significant  $\chi^2 (15) = 15.89, p = 0.39, \chi^2 / df = 1.06, GFI = 0.97, NFI = 0.97, CFI = 0.99, TLI = 0.99, RMSEA = 0.023$  (The lower bound was 0.000 and the upper bound was 0.095 at 90% confidence interval), and SRMR = 0.03. A.12 and A.13 in Appendix A show the AMOS output figures.

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<sup>26</sup> Loehlin (1998, p.28) notes that standardised path coefficients are particularly useful when comparisons are made across different variables, whereas unstandardised path coefficients are used when comparisons are made across different populations (or studies) particularly with different sample sizes. In Figure 3.5, the standardised coefficient of 0.63 beside a straight arrow from the factor F1 to the variable, Reliability, means that, other things being equal, people in this particular population who are one standard deviation above the mean in 'I expect of my STs' tend to be 0.63 standard deviation above the mean in 'I expect reliability of my STs'.

<sup>27</sup> The logic of the square multiple correlation is shown in Appendix A as A.7 under Interpretation of the AMOS output figures.

Again, the bootstrap procedure did not change the result of the model fit. The estimated trust model of weak ties (Figure 3.6) differed from the hypothesised trust model (Figure 3.4) by deleting factors F3 and F4 as explained earlier and deleting only one path, n, although both paths, m and n, were found to be non-significant. This was because the model fit better to the sample data when path m<sup>28</sup> remained in the model giving an improved value of  $\chi^2 / df$  from 1.21 to the present value of 1.06.

The model explained 25% of the variance of 'my trust level in doing business with weak ties' and 36% of the variance of 'I think my weak ties trust me'. Again, in comparison with the expectations of reliability and discretion, expectation of honesty gave the highest variance of 75% and 84% respectively accounted for by the two factors, F1 and F4.

### Fundamental Expectations that Influenced Trust

Both estimated trust models of strong ties and weak ties (Figure 3.5 and Figure 3.6) verified that there were no path relationships between factor F2 "I expect mutual benefits and reciprocating favours of my STs" and X11 "my trust level in doing business with STs", and between factor F3 "STs expect mutual benefits and reciprocating favours of me" and X12 "I think my STs trust me" (see Figure 3.4). Instead, factor F1 showed a significant ( $p < 0.001$ ) influence on variable X11, and F4 on variable X12 ( $p < 0.001$ ). In this sense, expectations of honesty, reliability and discretion are the fundamental expectations that influence business executives' trust in their strong ties and their weak ties, and their perception of their ties' trust in them. However, expectations of mutual benefits and reciprocation of favours are not the

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<sup>28</sup> Path m was marginally non-significant before bootstrapping with  $p = 0.06$ . After bootstrapping,  $p$

fundamental expectations that influence trust in this context. Therefore, Hypothesis four (H4) was supported:

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was revised to 0.14.

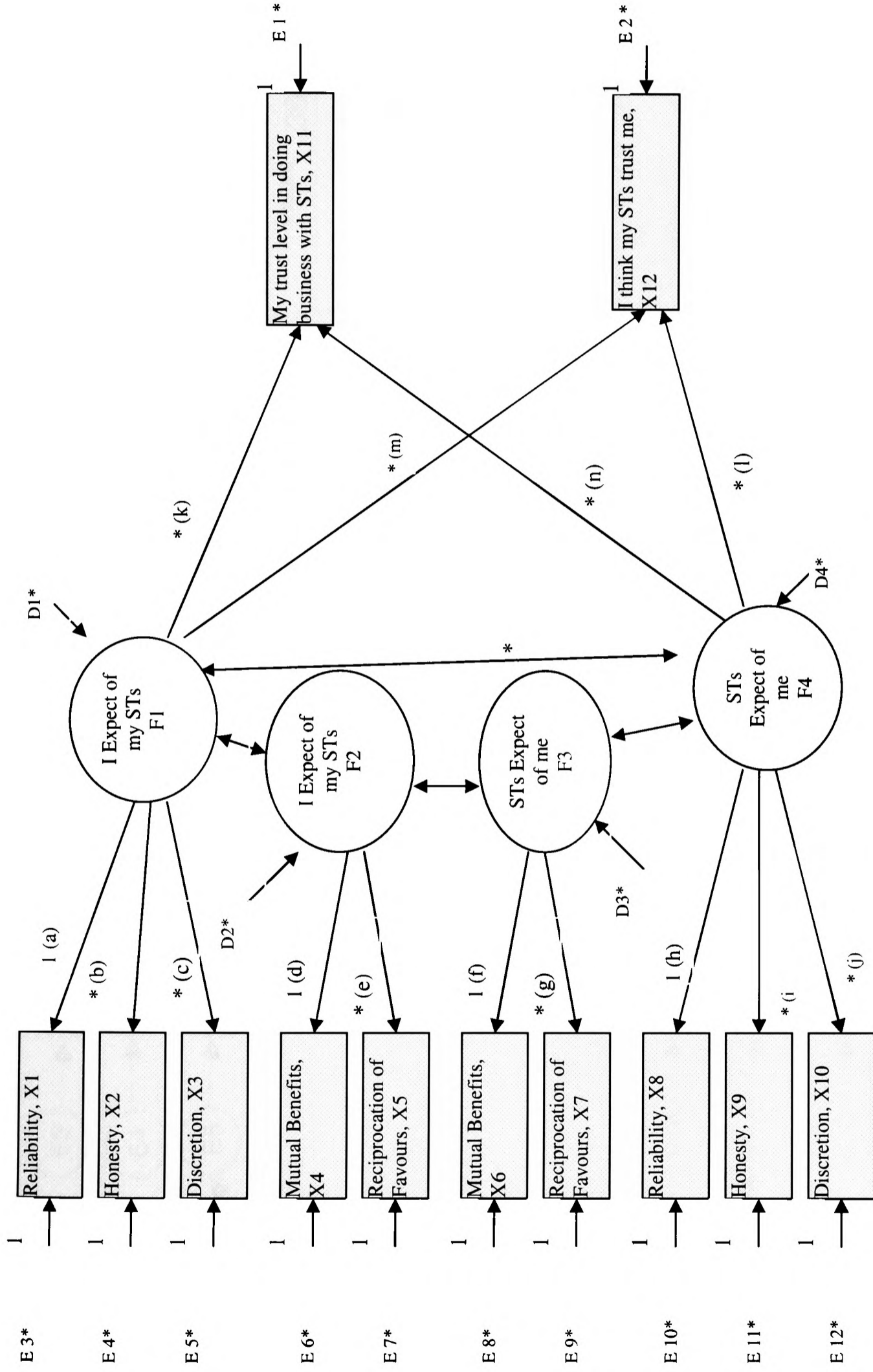


Figure 3.4 The Hypothesised Trust Model for Business Executives and their Strong Ties

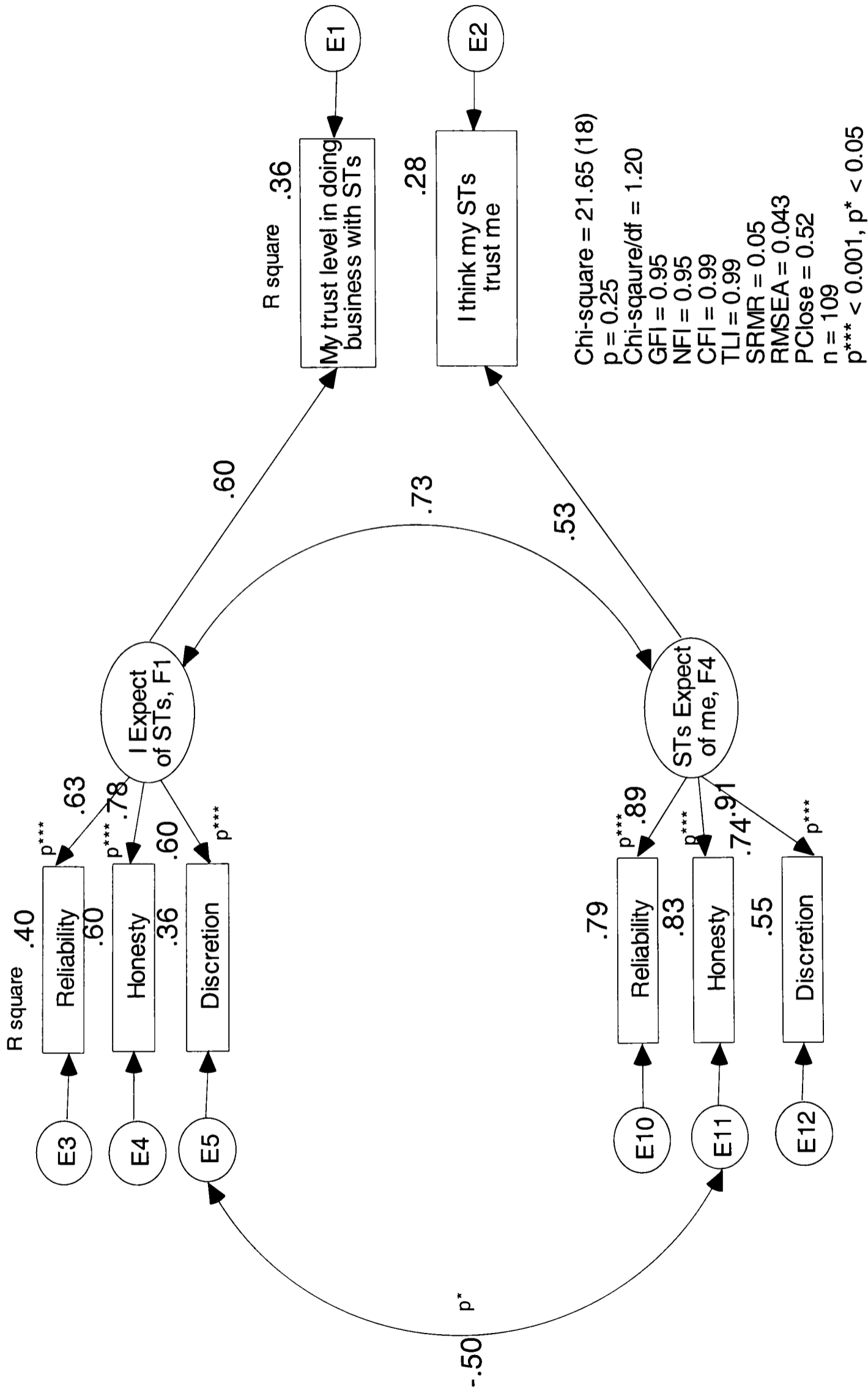


Figure 3.5 An Estimated Trust Model for Strong Ties

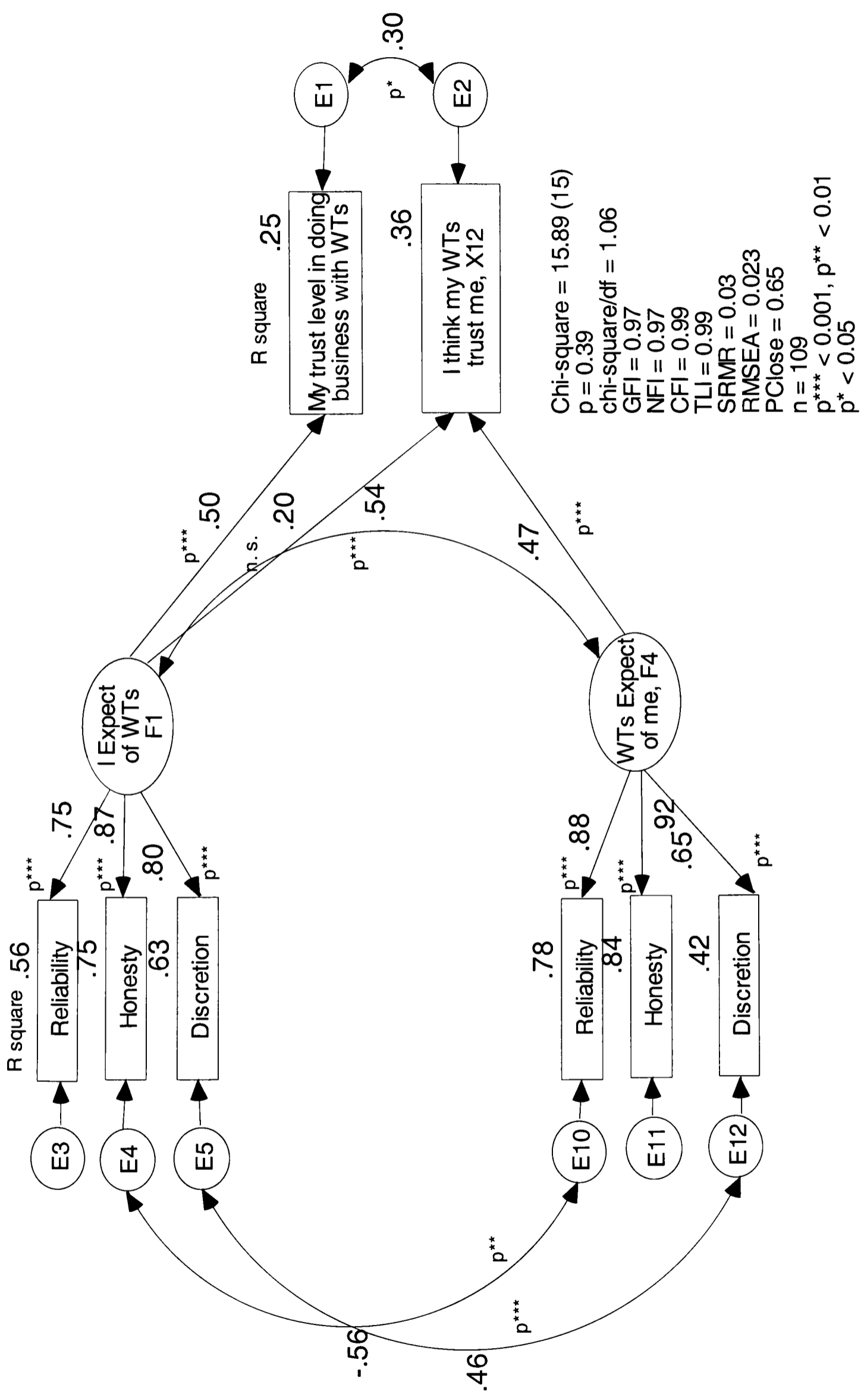


Figure 3.6 An Estimated Trust Model for Weak Ties

### Ego's expectations of Alters and Alters' Expectations of Ego

Figure 3.5 shows that factor F1 and F4 was highly correlated ( $\beta = 0.73, p < 0.001$ ) in the model of strong ties. Similar relationship was also found in the model of weak ties ( $\beta = 0.54, p < 0.001$  in Figure 3.6). Therefore, hypothesis five (H5) was supported: Ego's expectations of alters (strong ties and weak ties) and alters' expectations of ego perceived by ego were similar i.e. correlated.

### Reciprocation of Expectations of Trusting Behaviours

Both Figure 3.5 and 3.6 show that the path (m) from F1 to X12 and the path (n) from F4 to X11 were non-significant. In this sense, expectations of trusting behaviours of honesty, reliability and discretion were not reciprocal. In other words, there was no evidence of reciprocation of trust expectations in this study. Therefore, hypothesis six (H6) was not confirmed.

### 3.3 Discussion

Thus far, this chapter has examined six hypotheses related to expectations of trusting behaviours between business executives and their strong ties and weak ties. Five of them were confirmed. Ego's (i.e. business executives') expectations of strong ties being honest, reliable, discreet, valuing mutual benefits and reciprocating favours were found to be higher than ego's expectations of weak ties. It followed that ego's perception of strong ties' expectations of ego being honest, reliable, discreet, valuing mutual benefits and reciprocating favours was higher than ego's perception of weak ties' expectations of ego. The finding of trust levels between egos and their strong ties being higher than that for weak ties supported the prediction. Expectations of honesty, reliability and discretion were confirmed to be the fundamental expectations that influenced egos' trust in their strong ties and weak ties, and also influenced how egos perceived their ties' trust in them. The hypothesis that ego's expectations of alters (strong or weak ties) would be correlated with alters' expectations of ego as perceived by ego was confirmed. However, expectations of trusting behaviours were not found to be similarly reciprocal.

This section discusses the findings of the study reported in the previous section. It will begin with discussion of the limitations of using the small sample size and non-normality of the data. The results are then discussed. The definition of interpersonal trust will be revisited in the light of the findings. The unconfirmed prediction of reciprocating expectations of trusting behaviours is discussed in more detail. The dichotomy of strong and weak ties will be re-examined in considering power positions ranked within hierarchical social structures. The theoretical and practical implications

of the present study will be summarised before revisiting moral judgment of business executives in the context of preserving mutual relationships. Future research directions will be discussed in the final chapter.

### **Limitations**

The concern about the sample size and non-normality is related to the testing of hypothesis four, five and six using structural equation modelling. The small sample size decreases the power of the fit tests and the reliability of the estimated models. Below is an analysis of the extent of the issue and hence, the power of the test for these three hypotheses.

The inherent problem of the small sample size and non-normality in the present experiment is not uncommon. Bentler and Yuan (1999, p. 181 and 182) point out that “in practise, high dimensional non-normal data with small to medium sample sizes are very common...Psychological data often are nonnormal.” In developmental psychology, Tanaka (1987) also notes that the number of subjects available to test is small relative to the complexity and the size of the assumed model. The same problem was cited in the present thesis when business executives proved difficult to recruit.

Further, researchers have developed another statistical test, called the Satorra-Bentler scaled chi-square statistics,  $T_{SB}$  (Satorra & Bentler, 1988). This statistic corrects the normal theory-based T-statistics ( $\chi^2$ ) derived from the maximum likelihood estimation method, called  $T_{ML}$ , such that  $T_{SB}$  is  $> T_{ML}$ . In non-statistical description,  $T_{SB}$  multiplies  $T_{ML}$  by a correction factor that depends on the data and the model. Such

correction should minimise type II error. It occurs when  $H_0: \Sigma = \Sigma(\theta)$  is not rejected<sup>29</sup> even though it is false.  $T_{ML}$  was reported in the preceding section in the present thesis.

However, this corrected statistic would not necessarily solve the present problem of small sample size and non-normality conditions. In Bentler and Yuan's (1999) investigation of the robustness of  $T_{SB}$  in conditions of small sample size<sup>30</sup>, normality and non-normality<sup>31</sup> at the same time in a confirmatory factor model (with 33 parameters and  $df = 87$ ), the  $T_{SB}$  statistic created type I errors<sup>32</sup> while its object was to minimise type II errors. For a simpler model of 13 parameters, Chou et al. (1991) found that the  $T_{ML}$  and  $T_{SB}$  statistics are equally robust under all conditions of non-normality. Although the present models (21 parameters with  $df = 15$ ) were slightly larger than Chou et al.'s (1991) model (13 parameters with  $df = 8$ ), and the weak ties data was slightly non-normal, we may possibly draw a parallel conclusion from Chou et al.'s (1991) study that the  $T_{ML}$  statistics were robust for both estimated trust models.

The overall results are reliable for interpretation. A more detailed review of the

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<sup>29</sup> Because of sampling error, decisions in tests of hypotheses always have some uncertainty. There are two types of potential errors, type I and type II errors. Type II error occurs when the model does not fit the population, but we test the null hypothesis that the model fits well. The correct outcome is rejection of the null hypothesis. If the true parameter value is nearly equal to the value hypothesised in  $H_0$ , the probability of a type II error might be quite high. However, it would be smaller for more distant values of the true parameter. When the sample size is small, the probability of a type II error may be quite high. The test does not have a very high chance of detecting the actual deviation from  $H_0$  (Agresti & Finlay, 1997, p.175-177). In the present context,  $H_0: \Sigma = \Sigma(\theta)$  is not rejected at  $p > 0.05$  even though the model does not fit the population.

<sup>30</sup> The sample sizes in Bentler and Yuan's (1999) study were 60, 70, 80, 90, 100, 110 and 120.

<sup>31</sup> Four distribution conditions are tested. (1) Data is with a multivariate normal distribution, (2) data is elliptically symmetric with no skew but moderate kurtosis, (3) data is asymmetrically distributed with moderate skew and substantial kurtosis but the common factor still follows a multivariate normal distribution before rescaling and (4) data is more than moderate skew and extremely heavy kurtosis. Both the common factors and unique factors are asymmetric in distribution (Bentler & Yuan, 1999).

<sup>32</sup> A type I error occurs when  $H_0$  is rejected, even though it is true. The probability of a type I error is the  $\alpha$  level of the test (Agresti & Finlay, 1997, p.175-176). In the present context,  $H_0: \Sigma = \Sigma(\theta)$  is rejected at  $p \leq 0.05$  even though the model fits the population. Further, Agresti and Finlay (1997, p. 176) note that "the probability of type I error and the probability of type II error are inversely related. The smaller the  $\alpha$  level and hence the probability of type I error, the larger the probability of type II error... For a fixed probability of type I error, we can decrease the probability of type II error by selecting a larger sample."

literature concerning investigation of the  $T_{SB}$  statistic is presented in Appendix D as D.2.

### **Discussion of Main Results**

The study addressed the question of what trust means between business executives (egos) and their strong ties and weak ties (alters) in the context of doing business with each other. The importance of the question lies in the fact that egos in a dyadic exchange may expect a number of trust behaviours to be fulfilled by their alters for egos to trust their alters. Moreover, this thesis suggests that expectation of trusting behaviours may be reciprocal. Not only do egos trust their alters when the alters demonstrate their trusting behaviours by meeting the egos' expectations of them, but the egos will also reciprocate in kind by meeting their alters' expectations of them, as perceived by them, in order to prove their trustworthiness. Such a process may be governed by an internalised moral norm of reciprocity.

In responding to the main research questions, the findings of the present experiment showed that expectations of honesty, reliability and discretion influenced business executives' trust in their strong ties and weak ties, and also influenced how they perceived their ties' trust in them. However, expectations of mutual benefit and reciprocating favours were not found to influence trust in strong and weak ties.

Theoretical and practical implications will be discussed later in the section. In spite of the small sample size, these findings were supported under hypothesis four (H4) with  $p < 0.001$  in the present study.

### Chapter 3

Further, the findings did not confirm that expectations of trusting behaviours were reciprocal. The notion of meta-trust proposed in this thesis was not confirmed either. In this sense, it was concluded that trusting strong ties and weak ties means that those ties fulfil one's expectations of them, in particular, with regard to honesty, reliability and discretion. This unconfirmed prediction will be discussed further later in this section.

Correspondingly, 'I think my strong ties and weak ties trust me' means that I perform the trusting behaviours in accordance with what I perceive their expectations of me to be, with regard to honesty, reliability and discretion. It was found that business executives' expectations of their ties and their ties' expectations of them, as perceived by them, were correlated. This may suggest that perceived expectations of their ties could be the projection of their values onto their ties in the form of expectations. Mutual expectations could be created at some stage of the relationships. This finding supported Deutsch's (1958, p. 267) meaning of "person I and person II have complementary social trust with regard to each other's behaviour". For mutual trust to exist, respective expectations of both actors involved in an exchange must be similar or compatible. Again, in spite of the small sample size, these findings were supported under hypothesis five (H5) with  $p < 0.001$  in the present study.

Moreover, the trust level between business executives and strong ties was higher than for weak ties. This finding supports Granovetter's (1985) notion of embeddedness of on-going social relations that can contribute to the production of trust. Frequent and stable relationships characterise strong ties' relations.

## Chapter 3

The results also showed that expectation of honesty was the most important expectation in influencing business executives' trust in their strong ties and weak ties, and perception of their trust by their ties. This finding will be linked to the design of the third study in Part C of the thesis, which aims to explore a number of trust domains in a multidimensional trust scale.

Why are expectations of honesty associated with trust in weak ties? With strong ties, there would have been a history of transactions and a series of ongoing-social relations that generate standards of expected behaviours and thereby trust (Granovetter, 1985; Aldrich & Zimmer, 1986). However, interactions with weak ties are usually sporadic and infrequent (Granovetter, 1973). Perhaps some level of generalised expectancy is necessary not only for a normal and satisfying life (Rotter, 1971), but also for dealings in a business context. Moreover, business executives might rely on their intuitions to guide their emotions when deciding whether or not to trust their weak ties. They might be able to judge their weak ties' levels of honesty based on, for example, comments from mutual associates and their reputations in their industries.

### **Revisiting the Definition of Interpersonal Trust**

The definition of interpersonal trust in this thesis was derived from Zucker's (1986) notion of trust as a set of expectations shared among actors involved in an exchange, and Butler's (1983, 1986) notion of reciprocity of trust to be expanded by including reciprocity of expectations of trusting behaviours. Since all exchanges involve both negotiated and reciprocal exchanges, interpersonal trust was therefore defined by encompassing all these aspects as follows:

*Original: Interpersonal trust is defined as mutual expectations that drive trusting behaviours to be reciprocated between two actors, an ego and an alter, involved in an exchange, whether it is negotiated or reciprocal.*

In the light of the findings, the above definition is now changed in order to reflect the fact that the fundamental expectations that influence trust in strong and weak ties were specifically related to honesty, reliability and discretion, but expectations of these trusting behaviours were not found to be reciprocal. The revised definition is shown below:

*Revised: Interpersonal trust is defined as mutual expectations of honesty, reliability and discretion shared by two actors, an ego and an alter, involved in an exchange, whether it is negotiated or reciprocal.*

Theoretical implication of this revised definition will be discussed later in the section.

### **Perceived Expectation and the Unconfirmed Hypothesis**

Business executives perceived their strong ties as having higher expectations of them than they had of their strong ties. The same phenomenon was observed with weak ties. Since trust was a measure of expectations, business executives perceived that their strong ties and weak ties trusted them more than they trusted their ties. This seems simply to reflect a self-serving (or self-presentational bias) – I am more trustworthy than most other people. Alternatively, the business executives could be unreasonably suspicious of their ties. A relevant question for future research is whether their strong

## Chapter 3

and weak ties themselves would have responded in a similar way if their responses were solicited. The absence of any direct measure of ties' responses represents a limitation in the research design. This limitation is also relevant to the measure of reciprocity of expectations of trusting behaviours, which is discussed below.

With regard to the unconfirmed hypothesis six (H6), the present study found that the expectation of reciprocating trusting behaviour was not a significant predictor of trust in the path models of strong ties and weak ties. What could explain the non-significant paths in the trust models (Figure 3.5 and 3.6)? One reason could be the small sample size. Given the acknowledged limitations of using a small sample, these two trust models might not be the final models. With a bigger sample size, the near significant path in the model of weak ties (Figure 3.6) may be significant, or the reciprocal effect of expectation of trusting behaviours (hypothesis six) may be significant in either or both models.

Another possible reason could be the experimental design. Butler's studies (1983, 1986) asked a) professionals and their secretaries, and b) men and women in close relationships how much they trusted one another. They examined the reciprocity of trust by collecting data from both actors in dyads and using regression analysis. In such a design, trust was found to be reciprocal: one person's trust in another strongly influences the other's trust in that person. In the present study, data concerning strong and weak ties' expectations were not collected from the ties themselves. In future studies, such data could be compared across parties to each business relationship. However, it was impractical in the present study to get questionnaires to the ties. This thesis suggests that future research should explore reciprocity of trust between

### Chapter 3

business executives and their strong and weak ties, and then re-examine whether expectations of honesty, reliability and discretion are reciprocal. We may expect that assumed reciprocity (Kenny, 1994, Chapter 6) is high for expectations of reciprocating trusting behaviours. In the present context, assumed reciprocity is the extent to which business executives think that if they expect trusting behaviours of their ties, these ties would reciprocate similar expectations. However, we may also expect that strong and weak ties' actual expectations of business executives may differ from what business executives perceive their ties' expectation of themselves possibly due to distorted perceptions of one-way relationships (Kenny, 1994). For example, an ego may perceive that an alter has higher trust in the ego more than what the alter actually trusts the ego. In examining expectations of reciprocating trusting behaviours, similarities and differences in perception between egos and alters or perceivers and targets in Kenny's (1994) terminology must be addressed.

Nevertheless, the present findings still raise questions about a method of examining expectations of reciprocation of trusting behaviours. An earlier qualitative study by Gabarro (1978)<sup>33</sup> showed that the development of trust in a subordinate or superior was affected by how mutual expectations had been worked out with that person and how well that person had met those expectations. His interviews suggested that "trust, like mutual expectations, developed over time and the nature of this trust became more concrete and differentiated as people came to know each other better" (Gabarro 1978, p. 295). The study further showed that some mutual expectations evolved implicitly but others were negotiated explicitly. With hindsight, this thesis had not considered the possibility that participants might follow norms of reciprocity

implicitly, or participants might not be consciously aware of the norms. This may be a reason why the hypothesis was not confirmed. For example, to say overtly ‘if you trust me, I will trust you in return’ may not be a social norm in business interactions for a number of reasons. To be judged as suspicious of others would be undesirable. Indeed, to explicitly refer to reciprocation of trust may instantly create a feeling of doubt in the relationship. Perhaps this expectation of reciprocating trusting behaviour may be one of the unwritten rules in business interactions regarding the earning of trust from others or trusting others. There is more scope than allowed in the present study to examine how expectation of reciprocating trust behaviours such as honesty, reliability and discretion is communicated or mutually understood between business executives and their business associates. Possible future research into this issue will be suggested.

### **Revisiting Strong and Weak Ties in Social Network Structures**

The present study followed Granovetter’s (1973) dichotomous notion of ties as either strong or weak. However, relationships are not simply judged as “strong” or “weak” in a business world. Perceived differences in power, influence or status within a hierarchy may also affect how business executives relate to their network ties and how much they trust them. However, the present research did not address these possible perceived differences that might affect interpersonal trust within the categories of strong and weak ties. Two perspectives on how ties are embedded in social structures may give us a further understanding of possible power influencing

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<sup>33</sup> It was a study of the development of trust, influence and expectations between four newly appointed

relationships between weak ties, but not strong ties. If this is the case, the present study opens up future research direction. The viewpoints are presented below after summarising the relations between power and influence.

Power and influence are often used synonymously. In the present context of network ties, the power bases of influence may stem from egos' or alters' occupational positions (or titles) in their organisations, the number of people working for them, reputations in their fields, their expert knowledge, or their access to information that is instrumental to the recipient who perceives power in them.

As Granovetter (1985) points out, social relations are embedded in networks that are responsible for the production of trust in economic life. Structural network analysts view the nature of interpersonal relationships as a consequence of social structure, and that it depends on factors such as power, influence and resources, but not psychological factors such as interpersonal attraction. Hall and Wellman (1985, p. 30) suggest that “structured access to scarce resources determines opportunities and constraints” for normative social behaviour whereby people behave similarly in response to shared norms. “Although interpersonal attraction often affects the intensity and breadth of relationship ties, the ties themselves are a consequence of social structure and not the cause” (Hall and Wellman 1985, p.31). This view is further substantiated by Berscheid (1985), who along with other attraction researchers, recognised the importance of the social context surrounding the relationship that could impose constraints upon attraction to another. In particular, the frequency of interaction, the availability of interaction between two actors embedded in a larger

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presidents and thirty-three subordinates over a three-year period in the U.S.

## Chapter 3

multiple-person network, and the extent of reciprocal rewards between two actors would likely affect their mutual attraction.

Lin's (1982) theory of instrumental action adds another perspective to the understanding of social structure, and how that structure may explain why certain instrumental actions, such as looking for a good job, are more successful than others. She proposes that social resources are embedded in a pyramidal social structure of direct and indirect ties whose positions are ranked according to certain valued resources such as wealth, status, and power. The higher one's position in terms of occupational status in the social structure, the more likely it is that one will have access to better-valued resources embedded in the structure. Lin quoted Laumann's (1966) investigation of the homophily and the prestige principles. It was shown that individuals tended to interact with others who shared similar characteristics (homophily), and to name others of higher prestige and status as preferred interaction partners (prestige). Both principles suggest preferred interactions with others at similar or higher positions in the social structure. Further, Lin's (1982) three studies suggest that instrumental behaviour would dictate vertical linkages between people with lower occupational status and those with higher occupational status, and that these vertical linkages are likely to be weak ties. However, sharing similar characteristics would promote horizontal linkages among individuals, who are likely to be strong ties and share similar positions in the social structure. Therefore, weak ties rather than strong ties tend to lead to better social resources occupied by people with higher occupational status. The mix of these two linkages among individuals will determine stability and change in the social structure of a society (Lin, 1982).

By following the argument above, power differences would likely be embedded in relationships between egos and their weak ties who are likely from different social class<sup>34</sup>. Future research should assess this possibility.

### **Theoretical Implications**

In Section 2.1 of Chapter 2, the relationship between social exchange and trust was highlighted. Blau's (1964, p.93-94, 99) theory is the central rationale for predicting such a relationship: "social exchange ... involves favours that create diffuse future obligations, not precisely specified ones, and the nature of the return cannot be bargained about but must be left to the discretion of the one who makes it ... Since there is no way to assure an appropriate return for a favour, social exchange requires trusting others to discharge their obligations... Since exchange obligations promote trust, special mechanisms exist to perpetuate obligations and thus strengthen bonds of indebtedness and trust". In other words, Blau (1964) suggested that returning of benefits or favours received promotes trust between two actors involved in a social exchange. However, this thesis has demonstrated that returning a favour does not influence trust between business executives and their business relationships irrespective of the strength of relationships in business exchanges, although reciprocal exchanges exist in all kinds of exchanges (Emerson, 1981; Molm, 1994, 2001). An example of a reciprocal exchange in business (or a social exchange in Blau's terms) is reflected by an old English cliché "If you scratch my back, I scratch your back". The present results further suggest that negotiated exchanges are central in business

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<sup>34</sup> Social class may be viewed as an ascription factor based on family background such as father's occupational status or socio-economic position, or an achieved factor of own occupational status (Lin, 1982).

## Chapter 3

dealings, and that the fundamental expectations of honesty, reliability and discretion influence trust between actors. Reciprocal exchanges may be peripheral in business transactions, and thus do not produce trust. Practical implications in business dealings are discussed in the next section.

Moreover, the present results have further theoretical implications. Blau's (1964) theory of social exchange has its own limitations with respect to the context. It may not apply to business relations. Perhaps, trusting someone in business contexts is more complex than trusting someone in social contexts where reciprocal exchanges are essential. Although this comparison is outside the scope of the present thesis, the third study in Part C of the thesis will explore in more depth trust values held by business executives as a multidimensional trust scale. The study will demonstrate that to trust someone in business dealings require business executives to actively choose those who they believe to be honest. Moreover, the question of whether reciprocating favours may emerge as an important trust values in a collectivistic culture such as Hong Kong will also be explored in the study reported in Part C of the thesis.

Earlier in the section, the rationale for revising the definition of interpersonal trust was presented. This thesis therefore prefers the definition of interpersonal trust between business executives and their strong and weak ties as follows:

*Interpersonal trust is defined as mutual expectations of honesty, reliability and discretion shared by two actors, an ego and an alter, involved in an exchange, whether it is negotiated or reciprocal.*

## Chapter 3

This revision has theoretical implications. Rotter's (1967, p.651, 1971) definition of interpersonal trust "as an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon" did not specify the context of trust, whether trust in social or business relationships. Similarly, Zucker's (1986) definition of trust did not refer to a particular context of relationships. However, the present study was an attempt to examine these two well-known theoretical definitions of interpersonal trust by empirical testing of trust between business executives and their strong and weak ties in business. The present revised definition of interpersonal trust further articulates Rotter's expectancy as expectations of honesty and reliability, and Zucker's set of expectations to be three fundamental expectations of honesty, reliability and discretion in the context of trust in business relationships. In this sense, definitions of interpersonal trust may be dependent on context. Indeed, a review of literature concerning interpersonal trust in personal relationships will be provided in Chapter 6 in Part C of the thesis, and the relevance of the personal relationship context to the present thesis will be further considered.

### **Practical Implications**

The customary expression "If you scratch my back, I scratch your back" may be understood implicitly in business without any explicit recognition of its application. Indeed, there may be social pressure not to verbally express this cliché. This may explain the present finding that return for a favour received does not produce trust regardless of the strength of business relationships.

## Chapter 3

What are the practical implications of these conclusions for business executives in the UK? Business executives may be culturally conditioned to be conservative and not to express their expectations of reciprocating favours as a means of building trust between actors in business dealings. Moreover, individuals may act in a self-interested way, seeking own benefits rather than mutual benefits. This may further influence them to keep business relationships restricted to the business sphere, i.e. individuals may tend to keep their business and social life separate. This divisive preference was revealed in some of the iterative interviews conducted in the present study in the UK. Discussion about possible differences between social friendship and business friendship will be presented in the final chapter, after taking account of the findings of the second study in Part B of the thesis. Future research should explore attitudinal differences between social and business friendship, particularly addressing whether expectations of reciprocating favours influence trust between actors.

### **Business Executives' Moral Judgment in Building Trust**

Although the present study did not empirically examine the relevance of Kohlberg's (1969, 1976) stages of moral reasoning to the various trust behaviours, the findings suggested that intentions of fulfilling strong and weak ties' expectations of honesty, reliability and discretion defined business executives' morality within society at Stage 3 on the conventional level. To reciprocate favours and mutual benefits might be regarded by executives as an individualistic moral right to be fair and equal (Stage 2) on the pre-conventional level. This may be a possible reason to explain why reciprocation of favours and mutual benefits were not found to influence trust in strong and weak ties. In a sense, it might be more important for them to be seen

“being honest” in the eyes of others and self in order to preserve relationships (Stage 3).

Further, the present experimental design did not confirm whether business executives reciprocated expectations of trusting behaviours with either strong or weak ties. It is possible that reciprocity of expectations may be implicit or an unwritten rule. Some would take advantage of this implicit social rule to protect their self-interests.

However, most would cooperate with others in the way depicted by the prisoner dilemma game, i.e. to reciprocate cooperation or defect. Otherwise, social order would be destroyed. For this reason, business executives might operate at a relatively basic level of moral reasoning at a mixture of Stage 3 and Stage 4 on the conventional level for them to be trusted by strong and weak ties, even though the relevance of Stage 4 was not directly confirmed in the present study.

Furthermore, the post-conventional level implies that more mature individuals can differentiate between social rules and moral principles. In particular, at Stage 5, the legitimacy of social rules is defined by social welfare and views of the majority. Laws may be unjust, but must be obeyed until they can be changed by social consensus. At Stage 6, one's conscience determines what is right or wrong, based on ethical principles. Violation of one's principles may result feelings of guilt. The post-conventional level was not examined in the present study. Further investigation of whether business executives are obliged to conform to institutional rules and laws is therefore required. The third study in Part C of the thesis touches on these issues by comparing HK and UK business executives.

## Chapter 3

In summary, the notion of trust has been empirically investigated through measures of expectations in the context of business executives' trust in their strong and weak ties. The results offered us further understanding of the meaning of interpersonal trust as expectations, specifically related to honesty, reliability and discretion. Definitions of interpersonal trust may be context-bound. The reciprocal effect of expectations of trusting behaviours can be explored by using a different approach of considering implicit and explicit expectations communicated between actors. Whether ties can simply be classified as strong or weak was discussed in the context of social network structures. The core meaning of Blau's (1964) social exchange theory was questioned because of its limited applicability to business contexts where negotiated as well as social exchanges take place. Finally, the relevance of Kohlberg's (1969, 1976) stages of moral reasoning to the present findings was considered.

**PART B**

**TRUST IN STRONGEST BUSINESS TIES WITH  
AND WITHOUT FRIENDSHIP**

**Literature Review**

The experiment in Part A of the thesis examined the nature of interpersonal trust between UK business executives and their strong ties and weak ties. In that context, this thesis defined trust in terms of mutual expectations between actors in a social exchange, and examined expectations of reciprocation of trusting behaviours between actors. Although the findings provided little evidence of reciprocation of trusting behaviours, we gain an understanding of the three fundamental expectations of honesty, reliability and discretion in trusting strong ties and weak ties. Part B of this thesis moves on to explore a different area of interpersonal trust. That is what variables might predict interpersonal trust between UK business executives and their strongest business ties, and to compare predictors in their ties with friendship and without friendship.

The current chapter presents a review of relevant literature, with the experiment being described in Chapter 5. The objective of this literature review is to examine various theories and concepts concerning possible antecedents of interpersonal trust between business executives and their strongest business ties. This will enable us to develop a set of testable hypotheses. In the first chapter, the notion of characteristics-based trust and homophily in sociology was related to the present topic of trust with business ties. Some aspects of these concepts have parallels with similarity-attraction theory in

psychology. A few possible antecedents of trust will be explored and posited using the notions of similarity-attraction, social network structure, and friendship. The chapter begins with a summary of a number of postulated predictors of trust. Each possible predictor will then be examined in turn through a literature review of relationship strength, similarity-attraction theory, attitude and activity similarity, ascribed and acquired similarity, and friendship. Why and how these possible predictors may impact on trust, including mediation effects, will be postulated. Since interpersonal trust in this particular type of dyadic relationship remains relatively under-explored in social psychology, some relevant literature is drawn from the allied disciplines of management and sociology.

### 4.1 Possible Predictors of Interpersonal Trust

This chapter begins with a brief introduction to a number of possible predictors of interpersonal trust between UK business and their strongest business ties with or without friendship. Because of the complexity, a diagrammatic representation<sup>1</sup> of the regression relationships between possible predictors of trust is shown in Figure 4.1.

Each possible predictor will be examined in the following sections. Why and how they might impact on trust, including mediating effects, will be considered.

This thesis suggests that relationship strength, business value similarity and how often business executives have been let down are direct predictors of the level of trust in strongest ties with or without friendship. Such relationships with strongest business

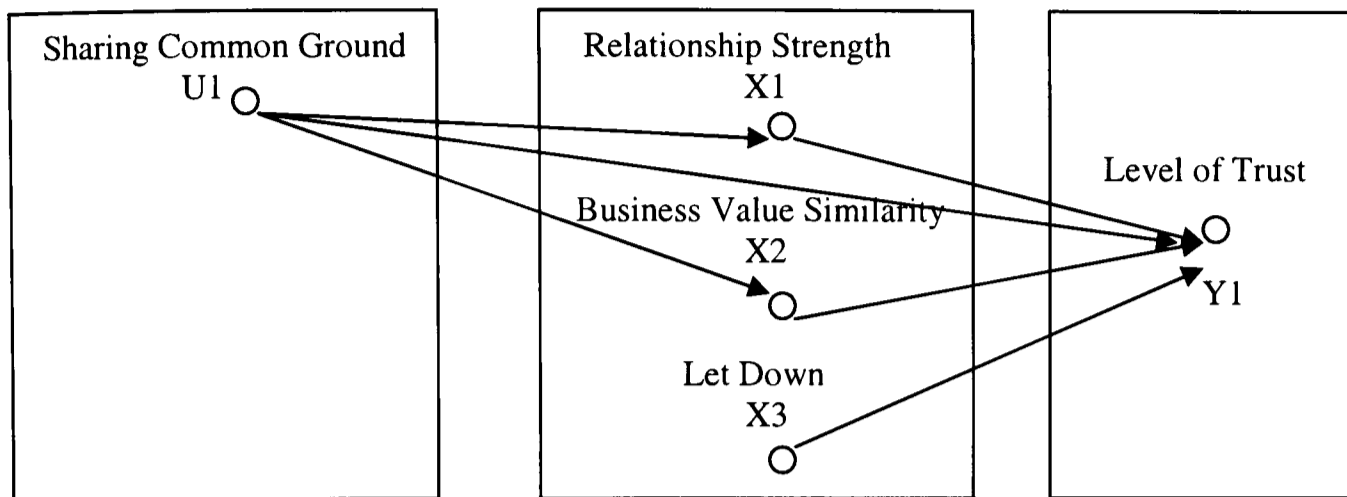
friendship ties are depicted by the single arrows pointing from X1 to Y1, X2 to Y1, and X3 to Y1 in Figure 4.1 (a). The single arrows pointing from X1 to Y2, X2 to Y2, and X3 to Y2 in Figure 4.1 (b) show the direct influence of these variables on the level of trust in strongest business ties without friendship.

In Figure 4.1 (a), sharing common ground between business executives and their strongest ties with friendship is postulated to influence indirectly the level of trust in strongest business friendship ties through two mediators, relationship strength and value similarity. Therefore, such mediation relationships are shown in the single arrows pointing from U1 to X1 and U1 to X2, then X1 to Y1 and X2 to Y1 in the Figure. Sharing common ground may directly influence the level of trust. The single arrow pointing from U1 to Y1 in the Figure depicts such a possible relationship. Therefore, the diagram in Figure 4.1 (a) shows sharing common ground as the first predictor of trust in the first column, the predictors of relationship strength and value similarity as mediating variables and the predictor of how often business executives have been let down as an independent variable in the second column, and the variable of trust as the dependent (response) variable in the final column.

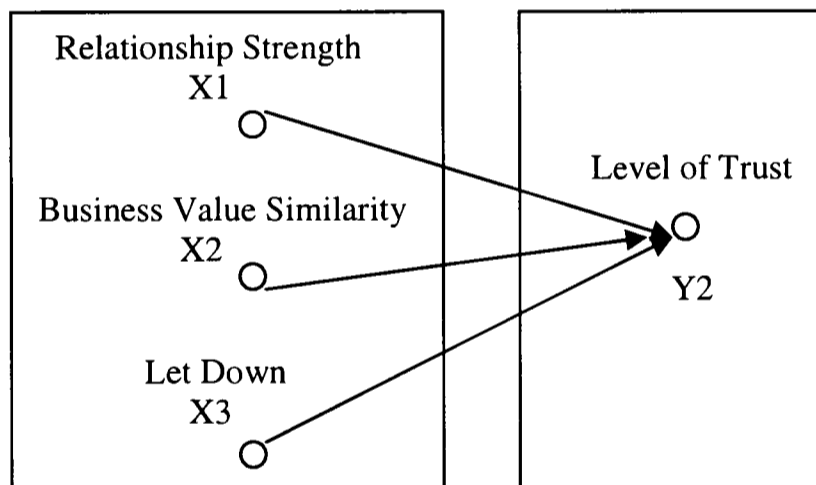
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<sup>1</sup> Wermuth and Wermuth (1996) explain in details the use of diagrammatic representation to show regression relationships among variables.

Figure 4.1 Predicted Relationships Between Variables



(a) Trust in Strongest Ties with Friendship



(b) Trust in Strongest Ties without Friendship

Y1, Y2 - Interpersonal trust in strongest ties with or without friendship as response variables.

X1, X2 - Mediating variables.

U1, X3 - Explanatory variables.

### 4.2 Trust and Relationship Strength

Among the possible predictors outlined above, this thesis starts by examining the relationship between trust and relationship strength. Research into associations between trust and relationship strength has been conducted in the disciplines of psychology in close relationships, management, and marketing in business relationships. The intention in this section is to focus on previous quantitative research in this area that is relevant to the concerns of the present thesis. Different terms, such as relationship strength, closeness and quality, and tie strength have been used in measuring strength of relationships. This section begins with a review of the differences between these conceptualisations. A new construct called Relationship Association is then proposed to measure tie strength or relationship strength to reflect the business rather than social relationship context in the present thesis.

#### **Relationship Strength, Closeness and Quality**

It is important to highlight a subtle difference between relationship strength, closeness and quality. Past researchers have used one of these terms in their own research with little consistency in characterising a strong, warm and positive customer relationship with service personnel (Bove & Johnson, 2001). Bove and Johnson (2001) suggest that “relationship strength” should be used to describe the depth of a relationship between two individuals (e.g. a customer and salesperson), and that “relationship closeness” is best applied to a personal context that describes romantic, friendship or family relationships. Further, they suggest that “relationship quality” is most appropriate to describe the strength of a relationship between a customer and a firm that provides services, or between two organisations. In this sense, the term

“relationship strength” best characterises business relationships between two actors, (Bove & Johnson, 2001). The terms “relationship closeness” and “relationship quality” can be interpreted in many different ways (e.g. “closeness” as love, or “quality” as attributes or features of relationships). Therefore, the term “relationship strength” rather than “relationship closeness” or “quality” reflects best the context of the present thesis.

Based on their literature review, Bove and Johnson (2002, p. 194, 195) further suggest that “relationship strength can be conceptualised as a higher order construct, made up of the components of trust and commitment... There is a need for empirical studies to validate the suggested relationship strength construct”. As the researchers implied, trusting someone might also be an antecedent of a strong relationship with them, and one of the aspects of the strength might be trust. This thesis suggests that trust can be measured as an outcome of having relationship strength as an antecedent, or that trust as an antecedent may exert a positive effect on relationship strength. This thesis focuses more on the former effect of relationship strength among other possible antecedents on trust.

A review of studies of relationship quality and closeness, such as Crosby et al. (1990), Legace et al. (1991), Wray et al. (1994), Bejou et al. (1996) and Barnes (1997), shows that relationships between trust and relationship quality and closeness were not measured. Thus, these studies are not relevant to present concerns. However, a study by Gwinner et al. (1998) is the research that has the most direct relevance to the current thesis. Gwinner et al. (1998) find that a construct measuring customer benefits (containing an item measuring trust in the service provider), is rated highest by

consumers who have strong relationships with their service providers. Although their study is not about dyadic buyer-seller relationships, but rather it is about a consumer-service provider company, it stills provides evidence of an association between trust and relationship strength.

Given the inconsistent operationalisation of relationship strength, none of its available measures were considered appropriate for the present research. However, measures of tie strength used by social network researchers seem to be more relevant to our present focus. Tie strength is reviewed in the following section.

### **Tie Strength**

When assessing strong ties in social networks, network theorists operationalise relationship strength as tie strength using some observable measures. Granovetter's (1973) conceptual contribution has been most substantial. He suggested that the strength of a tie is "a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and the reciprocal services which characterise the tie" (Granovetter, 1973, p. 1361). In this sense, tie strength can be measured as a latent construct that consists of variables such as duration of relationships, degree of intimacy in terms of mutual confiding, and types of services reciprocated in exchange relations. An example of reciprocated services in buyer-seller relations would be the buyer obtaining quality services that exceed expectations, and the seller gaining referrals from the buyer.

Further, Marsden and Campbell (1984) construct-validated the measure of tie strength using Granovetter's definition and data from three surveys on three closest friendship

ties. They found that a measure of closeness<sup>2</sup> or emotional intensity of a friendship relationship was the best indicator of tie strength when compared to other measures of duration of a relationship, frequency of contact, mutual confiding, and breadth of discussion topics. The last two measures were viewed more as a “depth” construct of a relationship than as tie strength. Following Marsden and Campbell (1984), Frenzen and Davis (1990) used four indicators of tie strength. They were closeness, intimacy, support and association in a study of purchasing behaviours at home parties of direct sales, where 59 percent of the buyers-sellers relations were classified as friends, close friends or relatives. Therefore, measures of tie strength in the context of strong social ties tend to emphasise closeness, intimacy and support as measures of depth of relationships. This thesis considers that the terms of relationship strength and tie strength have similar meanings. They both measure strength and depth of relationships. However, the measures of tie strength used by past researchers, particularly that of Granovetter (1973), are more relevant, and can be customised to suit the present context of strong business relationships, rather than close social relationships. A new construct, called “Relationship Association”, is therefore proposed to measure tie strength in strongest business relationships in order to reflect adequately the underlying measures of the construct. The construct of Relationship Association is introduced below.

### **Relationship Association**

This present research measures “Relationship Association” as an extension of tie strength or relationship strength. The proposed measures include other measures of tie strength in addition to duration of relationship and the reciprocal services that

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<sup>2</sup> Closeness was measured by asking respondents to indicate that whether each friend was an

characterise the tie (Granovetter, 1973). This allows assessment of the degree of overlap between the lives of business executives and their strongest ties, which may have an independent influence on trust. Areas of overlap may relate to how much an ego has worked with an alter, how well s/he knows his/her alter, his/her close family members, how often they interact outside office hours, and the extent of network dependency. Mutual confiding as a measure of intimacy is not included in the present study because it applies more to close social relationships than to business relationships. Thus, the following measures are proposed to form a latent construct:

1. How many years you have known each of the strongest ties? (Duration of relationship, Granovetter, 1973)
2. How often do you interact with each person outside office hours? (Frequency of interaction, modified from Granovetter, 1973)
3. To what extent do you and your strong ties both depend on this relationship in terms of utilising each other's network resources? (Based on Social Exchange theory)
4. How much have you worked with each person?
5. How well do you know each person?
6. How well do you know each person's close family members?

Contact outside office hours is included in order to assess the possibility that relationships may be strengthened in outside-office activities, such as over meals, drinks or sports. The extent of network dependency reflects more adequately the reciprocal services that characterise the tie in the present context (Granovetter, 1973). This measure is reviewed below, and issues concerning power-dependence are considered.

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acquaintance, a good friend, or a very close friend.

### **The Extent of Network Dependency**

In responding to Granovetter's (1973) definition of tie strength, it is necessary to include a measure of mutual resource dependency between the respondent and his/her chosen strong ties as part of the relationship association construct. In Chapter 2, it was highlighted (under social exchange and trust in Section 2.1) that mutually dependent relations exist between two actors whereby network resources are exchanged in order to provide mutual benefits (Molm, 1994). However, the relative dependence between two actors in an exchange relationship determines their relative power (Emerson 1962). Power derives from having resources that the other needs and from controlling the alternative sources of the resources. Cook and Emerson (1978) note that "power cannot be studied meaningfully in the dyad and that it is fundamentally a social structural phenomenon." For the present thesis, including power at the exchange network level would require extra data about the exchange relations between each pair of alters, i.e. pairs of strong ties (refer to Appendix B – a measure of structural power imbalance). Since the context of the thesis is trust in dyadic exchange relations, the aspect of power-dependence involving more than one other alter is not addressed. However, the present research focuses on the extent to which mutually dependent relationships between an ego and an alter may affect strength of relationships between the actors. Relationships that entail power imbalance will involve different research design such as that of studying power dependency between an ego and three alters as depicted in Figure B.1 presented in Appendix B. This is outside the scope of the present study.

Nevertheless, a possible method to measure power inequality perceived by egos was explored during a pilot trial in the semi-structured interview process with business executives. All the intended trial procedures are outlined below. Step one of the trial procedures was tested, but step two and three were never carried out due to difficulties encountered in step one.

First, two items were created in the proposed construct of Relationship Association in order to measure an ego's perception of power inequality in the dyadic relation. They were (1) "to what extent do you depend on the relationship with your strongest tie (e.g. alter A) in terms of utilising each other's resources?" (2) "to what extent does your strongest tie (alter A) depend on the relationship with you in terms of utilising each other's resources?" Both items were measured on a nine-point scale with 1 being not at all and 9 being the greatest extent. A difference score could then be obtained by subtracting the score on item (2) from the score on item (1). The third step was to test whether the difference scores might correlate with the level of trust in the strongest tie (alter A). Based on Deutsch's (1973) assertion, a negative correlation would suggest that egos perceived themselves to have power over their alters, and egos trusted them less. The reverse would be true for a positive correlation. Deutsch's (1973, p. 165) suggested that "the more power an individual perceives himself to have over other individuals, the less likely he is to perceive that they have altruistic intentions when they benefit him, and, hence, the less likely he is to trust them in situations where his power is irrelevant or cannot be applied". In other words, more powerful individuals would less likely assume altruistic motives and intentions in their partners and, thus, less likely to trust them. However, the first step of the operationalisation was found to be cognitively demanding by the interviewees during the pilot trial. Due to this

perceived complexity, the issue of power inequality in dyads was not investigated in the present thesis. The influence of power imbalance on dyadic trust will be revisited in the discussion section of the following chapter.

For now, this thesis emphasises the extent of *mutual* dependency perceived by egos, i.e. the extent to which business executives perceived that they and their strongest ties *both* depend on the relationship in terms of utilising each other's network resources, such as information, contacts, and referrals such that mutual dependency may be part of the construct of Relationship Association.

Since the rationale of the construct of Relationship Association has been presented above, this thesis proceeds to postulate its relationship with trust. In view of the fact that the only study (Gwinner et al., 1998) to examine the issue showed an association between trust and relationship strength, I predict that trust will be associated with Relationship Association. It is therefore hypothesised that:

H1

*Relationship Association will be a significant predictor of trust between business executives and their strongest business ties.*

### **Relationship Association in the Context of Friendship**

Since strongest business ties can also involve friendship, Relationship Association in the context of friendship is discussed here. However, the present research focus is not on measuring friendship strength, but rather concerns possible differences between predictors of trust in business relationships with and without friendship.

Intuitively, we would expect higher Relationship Association to exist in friendship relationships. Thus, we would expect Relationship Association is stronger between business executives and their strongest business ties with friendship than strongest business ties without friendship. Fehr (1996) suggests that regular and frequent interaction is an important correlate of friendship formation and maintenance, and that shared environment promotes structured opportunities for interaction. In the proposed construct of Relationship Association, frequency of interaction outside office hours as one observed variable would therefore be expected to be higher for strongest business friendship ties than strongest ties without friendship. Another observed variable, how much the ego and the alter work together, would also be expected to be higher for strongest business friendship ties. That is the more they work together, the more likely that this structured interaction would promote the development of friendship.

Furthermore, in the context of service provider-client relationships, Price and Arnould (1999) have studied commercial friendships as a type of friendship. Their view is that “commercial friendships may be anchored more tangibly in instrumental goals than work relationships are” (Price & Arnould, 1999, p. 40). Some factors favouring commercial friendship formation would be regular contact, interdependent outcomes, and the need to co-operate in producing them (Adelman, Ahuvia, & Goodwin, 1994). In this sense, achieving outcomes that are interdependent would be instrumentalised as the utilisation of each other’s network resources. Hence, people use friends to achieve a variety of objectives including that of serving an instrumental action (Allan 1989). We may therefore expect that one of the measurable variables, “dependence on

each other's network resources", in the Relationship Association construct, would be higher for strongest business friendship ties than strongest ties without friendship.

If these three observed variables of the Relationship Association construct, frequency of interaction, how much business ties work together and the extent of network dependency, are expected to be higher for strongest business friendship ties than strongest ties without friendship, it is logical to expect the overall construct of Relationship Association to be higher for strongest business friendship ties. It is therefore hypothesised that:

H2

*Relationship Association will be stronger between business executives and their strongest business ties with friendship than with strongest business ties without friendship.*

### 4.3 Trust and Business Value Similarity

The rationale for Relationship Association being a possible direct predictor of trust was explained in the previous section. This section explains why business value similarity may be another antecedent of trust by providing an introduction of similarity-attraction theory. The relationship between trust and attitude similarity will be discussed before business value similarity is postulated as a predictor of trust in strongest business ties.

### **Similarity-Attraction theory**

The literature concerning similarity-attraction is vast. The objective of this section is to provide a general understanding of the theory and the mutually reinforcing effects of interaction, similarity and liking within the scope of this thesis. The relationship between trust and attitude similarity will be reviewed in the subsequent section.

Social psychologists have identified a number of characteristics associated with attraction, such as propinquity, similarity or difference on various dimensions, physical attractiveness and intelligence (Crano & Messe, 1982). Attitude similarity appears to have received the greatest attention. Researchers (namely Newcomb, 1956 and 1961; Byrne, 1961, 1966, 1969, 1971; Insko & Wilson, 1977) have studied the relationship of attitude similarity and interpersonal attraction, and have concluded that individuals tend to be attracted to others perceived to be similar to them. The theory of similarity-attraction suggests that two individuals who perceive that they think alike tend to feel comfortable in each other's company. They may be able to anticipate one another's patterns of behaviour more easily than those of other people, and hence have more confidence in each other (Byrne, 1971). Newcomb (1956) posits that attraction between individuals varies with the degree of perceived similarity, and that attraction corresponds to the extent of reciprocal rewards being present in their interaction. This proposition is in agreement with social exchange theories (Homans, 1950; Blau 1964) claiming that interaction with similar peers is rewarding to both members of a dyad. Tesser's (1988) Self-evaluation Maintenance Model<sup>3</sup> assumes that people are motivated to maintain or increase their positive evaluation of themselves. Relationships with others influence self-evaluation through reflection and

social comparison. Perceived similarity of attitudes allows a positive evaluation of one's self-concept, fosters an interaction that is rewarding, and therefore a positive relationship. Further, when similarity enables positive sentiments between two individuals, conflicts are avoided, thus reducing cognitive dissonance<sup>4</sup> (Festinger, 1957).

Similarity encourages interaction, and interaction increases liking. "Birds of a feather flock together"<sup>5</sup> suggests that people tend to interact with similar others. For example, Insko and Wilson's (1977) study of the acquaintance process between same-gender dyads without prior ties to each other revealed that social interaction increased liking, and that when participants interacted, they discovered more similarities of beliefs and attitudes. In the course of getting to know each other, participants tended to search for common friends or acquaintances, interests or activities.

Furthermore, similarity, liking and inferred liking are associated. Condo and Crano (1988) experimentally manipulated both attitude similarity and the inferred positive evaluation by strangers. They found that although both variables were associated with attraction, partial correlation analyses indicated that the similarity-attraction association was strongly mediated by participants' inferences of the strangers' positive evaluation of them (liking). That is, people assume that a person who agrees with their attitudes (similarity measure) will also like them; people like those who are similar to them; and people infer those they like are similar to them. In this sense,

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<sup>3</sup> The Self-evaluation Maintenance Model is related to self-theory, which suggests that persons tend to see themselves with positive attributes (Tesser, 1988). The notion was first discussed by James (1907).

<sup>4</sup> Festinger's (1957) theory of cognitive dissonance holds that cognition about any person or object is dissonant when they are psychologically illogical or incompatible. Dissonance is uncomfortable, and attempts are made to reduce or eliminate it.

similarity and liking feed on each other, creating reciprocal liking. This study also suggests that such an inference of being liked leads to attraction, perhaps even more than does similarity.

Therefore, similarity, interaction and liking all tend to influence one another (Berscheid & Reis, 1998). We interact with similar rather than dissimilar others. We like those who are similar to us. We seek interaction with those we like. We like those with whom we interact. We discover similarities when we interact. Thus, similarity-attraction theory suggests that attitude and activity similarities would encourage interaction. Given the focus of the present thesis, the relationship between trust and attitude similarity is reviewed below. Activity similarity will be reviewed in the following section.

Moreover, similarity of attitudes (Kandel, 1978) and leisure interests (Werner & Parmelee, 1979) is important in the development of friendships. Shared interests or activities invariably create opportunities for positive interaction, and positive encounters are likely to increase chances of developing friendships (Dwyer, 2000). A number of studies have found greater similarity among friends than non-friends (such as Richardson, 1940; Newcomb, 1956; Kandel, 1978). The relationships between trust and friendship will be reviewed in the following section about sharing common ground.

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<sup>5</sup> Lazarsfeld and Merton (1954) noted that this proverb was quoted in Burton (1927 [1651], p. 622).

In business contexts, we may expect that people who share similar attitudes, interests or hobbies tend to interact more. However, friendship is not necessarily nurtured. There is more for us to examine about friendship formation in the following section.

### **Trust and Attitude Similarity**

In psychology, there have not been any empirical studies that explore the association between trust and similarity in the context of dyadic relationships between business executives and their strong ties. However, dyadic relationships between buyers and sellers have been examined by a few empirical studies in the discipline of management and marketing. First, attitude similarity has been found to be significantly related to trust in buyer-seller dyadic relationships (namely, Busch & Wilson, 1976; Nicholson, Compeau & Sethi, 2001). Busch and Wilson's (1976) laboratory experiment was an early attempt to examine the relationship between perceived trustworthiness of an ostensible salesman by participants and the attitude similarity between participants and this salesman using Byrne's (1961) survey of attitudes. The 26-item survey measured a variety of topics, ranging from fraternities and sororities to premarital sexual relations.

Second, Nicholson, Compeau and Sethi (2001) examined some variables that are close to the scope of the present experiment. Their study built on Doney and Cannon's (1997) findings concerning the salesperson's perceived likeability and similarity to members of the buying firm, which have a positive influence on the buying firm's trust of the salesperson, to include the effect of the length of the dyadic buyer-seller relationships. Nicholson, Compeau and Sethi (2001) find that when the relationship has a short history, liking partially mediates the effect of similarity of

business values, and fully mediates the influence of frequency of personal interaction on interpersonal trust in the supplier's rep. When the relationship has a longer history, liking fully mediates the effects of both similarity of business values and frequency of interaction on trust. The findings suggest that cognition-based trust may exist early in the buyer-seller relationship, but trust may become more affect based over time when liking is cultivated (Nicholson, Compeau & Sethi, 2001). Overall, their study shows that liking directly produces trust, and similarity of business values directly and indirectly influences trust depending on the length of the relationship.

Although Nicholson, Compeau and Sethi (2001) have found evidence that liking is an important determinant of trust in dyadic buyer-seller relationships, this thesis views Relationship Association as a more comprehensive measure of attraction in exploring effects on trust between business executives and their strongest business ties.

The relationship between trust and similarity of business values has been ascertained (Nicholson, Compeau & Sethi, 2001). However, it is important to point out that there is a difference in measuring the effects of perceived and actual value similarity in the process of interpersonal attraction. Curry and Kenny (1974) conducted a longitudinal study of value and personality similarity among college students being allocated to clusters of living units. They measured actual value agreement and perceived value agreement by asking participants (students) to first rank-order a set of values for themselves and then for each of their fellow cluster-members. The results showed that actual value similarity appeared to influence perceived value similarity, and that both perceived and actual value similarity influenced attraction, with actual value similarity becoming increasingly important 8 weeks after moving into the cluster.

They suggested that perceived value similarity acted as a mediating variable, although partial correlation analysis was not applied to demonstrate the mediating effect. In the present thesis, perceived similarity will be measured. Measuring actual similarity would involve input from the subject's strongest ties, which would unduly complicate the present study.

At this stage, a relevant question to raise is whether sharing perceived similarity in business values between business executives and their strongest business ties is a significant predictor of business executives' trust in their strongest business ties, irrespective of whether or not there is friendship in the relationship. By following the argument above, it is hypothesised that:

H3

*Sharing perceived similarity in business values will be a significant predictor of trust between business executives and their strongest business ties.*

#### 4.4 Trust and Common Ground

Thus far, two possible antecedents of trust in strongest business ties, Relationship Association and business value similarity, have been suggested. The third possible predictor of trust is common ground. In the present thesis, common ground refers to sharing a combination of ascribed and acquired characteristics, and activities such as interest or hobbies. This section begins with a review of ascribed and acquired characteristics. Trust and similarity in the context of friendship will be reviewed,

before common ground is proposed as a direct and indirect predictor of trust in strongest business ties involving friendship.

### **Ascribed and Acquired Characteristics**

The concept of ascribed and acquired characteristics was briefly reviewed in the Chapter 1. This area of research has been given attention by sociological and management researchers. Examples of ascribed characteristics are gender, ethnicity, age, national origin, family background and kinship. In addition, some researchers (e.g. Tsui & O'Reilly, 1989; Pelled & Xin, 2000) adopt the term "relational demography". This phrase refers to the degree to which individuals are similar in their demographic attributes such as gender, race and age (Tsui & O'Reilly, 1989). In this sense, relational demography is a subset of ascribed characteristics. Further, the central organising principle in ascribed similarities is homophily, the propensity of individuals who share common bases and therefore certain norms, perceptions and values to make contact with each other (Ruef, 2002).

Acquired characteristics have been termed "functional" characteristics, and their impact may reflect a tendency for individuals collectively possessing achieved characteristics such as higher education, social status (or social class), professional expertise and leadership to work with each other (Ruef, 2002).

There are very few studies that examine the relationship between ascribed characteristics and trust. Smith (1998) found that gender similarity relates positively to trust in buyer-seller dyadic relationships. Similarity in work attitudes and life stage has an indirect effect on the trust/satisfaction outcome that is mediated by relationship

management variables. This finding suggests that “buyers and sellers put more time, effort, and energy into managing homophilous relationships, and are more open and forthright in dealing with homophilous others”. Such a result is consistent with similarity-attraction theory (Smith 1998, p. 15), which was reviewed in Section 4.3 of this chapter.

Another relevant study is Pelled and Xin’s (2000) cross-country comparison of demographic similarity between supervisors and subordinates in the US and Mexico. With reference to Hofstede’ (1980) four cultural dimensions<sup>6</sup>: power distance, uncertainty avoidance, masculinity-femininity, and individualism-collectivism, Mexico is regarded to have greater power distance than the US in the study (literature on culture and trust will be reviewed in the third study in Part C). That is subordinates in Mexico are more susceptible to power and authority lying with their supervisors. On the masculinity dimension, they suggest that attitudes of patriarchy and machismo in Mexico may lead us to expect stronger effect of gender similarity on trust than in the US. The findings provide a measure of support for the prediction. Moreover, the results also show that there are positive associations between race similarity and trust in the US sample. Both findings are again consistent with similarity-attraction theory.

Gender characteristics have been found to be some of the most consistent bases for network homophily in face-to-face groups (McPherson & Smith-Lovin, 1987;

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<sup>6</sup> Hofstede (1980) develops four cultural dimensions: power distance, uncertainty avoidance, masculinity-femininity, and individualism-collectivism. Power distance refers to how acceptable it is to have power inequality within the work place. Uncertainty avoidance refers to the level of tolerance people have for ambiguity and the need for formal rule. The masculinity-femininity dimension refers to the preference of masculine goals (e.g. assertiveness) over feminine goals (e.g. nurturing). The fourth dimension, individualism and collectivism, was based on six work values Hofstede found in a multinational firm (IBM) among forty nations. Three values - personal time, freedom, and challenge

Mayhew et al., 1995). For business founding teams, Aldrich (1999, p. 85-86) shows that men's business discussion networks have commonly excluded women and contributed to gender homogeneity. Women's business groups are often formed as a reaction to male dominance in entrepreneurial activities, and may further enhance the effects of similarity on attraction. However, Ruef's (2002) study of group composition of new business start-up entrepreneurs finds that ascribed characteristics such as gender are subordinated to acquired characteristics, on the basis of functional considerations such as skills in procurement, research and development or operations. The need to have diversity of functional skills in founding teams leads to mixed-gender teams. Because it was difficult to recruit a large enough sample of women for comparison purposes in the present study, I do not directly address the effects of gender. Nevertheless, the gender issue in network composition and trust will be addressed at the end of the final chapter.

At this stage of the literature review, a relevant question to raise is whether ascribed or achieved characteristics have a direct or indirect effect on trust between business owners and their strongest ties. Given a lack of previous research, making specific prediction of which ascribed or acquired characteristics, or which combination of these characteristics, will have a direct or indirect effect on trust is difficult. Thus, the study is largely exploratory in nature. However, some tentative hypotheses may be derived from the literature on friendship reviewed below.

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constituted the individualism end of the dimension. Work goals of physical conditions, use of skills and training form the collectivism end of the dimension.

### **Trust and Similarity in the Context of Friendship**

Social psychological research on friendship has been carried out as part of the investigation of interpersonal attraction. Aboud and Mendelson (1996) give a comprehensive review of issues around the measures of characteristics associated with established friends for adults and adolescence. In particular, Aboud and Mendelson (1996, p. 96) note that “perception of similarity may be more important than actual similarity, that similarity may be confounded with an assumption about being liked.” The present study concentrates on exploring which perceived similar characteristics (including attitudinal or related to activities/interests, ascribed and acquired characteristics) predict dyadic trust between business executives and their strongest business ties, and explicitly compares ties that involve friendship with those that do not. Initial friendship selection is not covered in this thesis. Neither does this thesis aim to predict friendship between business ties. However, the literature review below focuses on the relationship between trust and friendship, and any similarity in attitude, activity, ascribed or acquired characteristics necessary for friendship formation, and friendship strength. Although friendship has been explored as a dependent variable in past research, we could still draw some insight in relevant studies for the present context.

### **Trust and Friendship**

There have been very few studies that show associations between trust and friendship. An early study by Tesch and Martin (1983) on lay conceptions of friendship employed content analysis of responses to two open-ended questions: “what does friendship mean to you?” and “what do you value in your friendships?” Participants were in their late twenties and came from a university alumni organisation, or were

college students. The results showed that the largest proportion of friendship items were in the domain of reciprocity (33%). Reciprocity in the form of dependability, caring, commitment, and trust were the key elements in friendship. A more recent study by Arunkumar and Dharmangadan (2001) explored the nature of close/intimate/best friendship relations in Kerala, India. A 60-item Friendship Intensity Measurement Scale (FIMS) with four sub-scales of viability, support, intimacy and harmony was constructed, based partly on Davis' (1985) 74-item friendship questionnaire. In FIMS, viability includes trust, respect and acceptance. Both of these studies confirm that trust is an important aspect of friendship.

Olk and Elvira's (2001) laboratory study is the only research that shows a direct association between trust and friendship in a business context. The study examined the role of friendship and discretion in negotiating strategic alliances using executive and non-executive MBA students as participants. The researchers defined discretion as the extent to which individuals are able to act for themselves or for the organisation. The results showed that friends have higher levels of trust than non-acquaintances. When friends negotiate, regardless of whether each side acted for themselves or for the organisation, there is a high level of trust. The results suggest the importance of friendship in creating trust in negotiating strategic alliances. In business relationships, as two actors develop interdependence around mutual benefits, they may grow to like each other and develop a strong friendship. Therefore, it seems likely that business relationships that involve friendship will be characterised by a higher level of trust than those relationships without friendship. It is therefore hypothesised that

H4

*Trust will be higher for strong business ties with friendship than for strong business ties without friendship.*

Having proposed this hypothesis, this thesis now explores what kind of common ground would predict trust in strong business ties with friendship. Therefore, gender and race similarity, and then attitude and activity similarity in friendship are reviewed below

### **Gender and Race Similarity in Friendship**

In understanding friendship formation, most of the research attention has focused on the role of similarity, reciprocity of liking and intimate self-disclosure (Fehr, 2000). However, similarity is a more central concern in the present thesis.

Kandel's (1978) study of friendship formation showed that school children mostly chose other children of the same gender and race as their best friends. Similarly, in Verbrugge's (1977) study of adult friendship choices in two cities, similarities in demographic characteristics such as age, gender, marital status, political preference, religious preference, and length of residence in the same area were important predictors of friendship choices.

Gender or race dissimilarity in a triadic structure (three people in a relationship with each other) may give us further understanding of friendship choices in a dyad within the triadic structure. A study of the formation of intransitive friendships by Hallinan and Kubitschek (1990) revealed that there were two stages in the process of friendship

choice. Hallinan and Kubitschek (1990, p. 518) explained that “an intransitive friendship triplet, ABC, is one in which A chooses B as a friend, B chooses C as a friend, but A does not choose C as a friend. A transitive triplet is one in which A chooses B, B chooses C, and A chooses C”. The first stage involved choosing an individual as a friend and the second involved deciding to continue the friendship. Hallinan and Kubitschek (1990) found that if the original transitive triad was characterised by gender or race dissimilarity, students were more likely to change to an intransitive triad in order to create gender or race homogeneity. In other words, when three people who were friends with one another did not share gender or race, one person would break friendship with one of the two friends who did not have the same gender or race in order to have gender or race similarity with the remaining friend. They also concluded that Caucasians avoid cross-race friendships by not making them in the first place. A more recent longitudinal study of friendship networks by Gibbons and Olk (2003) sampled two groups of MBA students to explore the association between attribute similarity (in ethnicity, gender, years of work experience, years of education beyond high school, and professional background in 11 categories) and structural similarity (when two people share exactly the same friend(s), they are considered to be structurally similar in the friendship network). The results showed that dyads with similar ethnic identification and structurally similar positions in the friendship network at the end of the first quarter in the program had stronger friendships 18 months later for sample 1 and 30 months later for sample 2. These findings suggest that similarity in ethnicity enhances friendship development, and influences structural position in the network. Having a structurally balanced state in either the transitive or intransitive triad, for example, therefore reduces cognitive dissonance between the triad members (Hallinan & Kubitschek, 1990). However,

similarity of demographic characteristics such as gender or race may be considered to be a rather superficial similarity, which may be used as preliminary criteria for seeking or rejecting friends (Aboud & Mendelson, 1996). Lea and Duck (1982) showed that accepted values are shared between friends at the beginning of a friendship. After four to 6 months of friendship development, friends are significantly more similar in their accepted values. It appears that the association between value similarity and friendship choice may be more important than the association between gender or race similarity and friendship choice.

Further, similarity that facilitates interaction is likely to be of most importance (Curry & Kenny, 1974), and shared interests or activities invariably create opportunities for positive interaction (Dwyer, 2000). A review of effects of attitude, activity and social environment similarity will be presented in the following section. In the context of this thesis, gender or race similarity is not expected to influence friendship choice to the same extent as attitude and activity similarity.

### **Attitude, Activity and Social Environment Similarity in Friendship**

Individuals are more likely to choose people as friends who share their values (Kandel, 1978), or who hold similar preferences in the spheres of leisure or activity (Werner & Parmelee, 1979; Fink & Wild, 1995; Sprecher, 1998). Kandel's (1978) study of real-life adolescent friendship pairs showed actual similarities of behaviour relating to the use of psychedelic drugs rather than the more traditional adolescent activities, such as dating and attending parties. However, Werner and Parmelee (1979) found that real activity similarity was significantly greater than real attitudinal similarity among student friendship pairs. While friends perceived similarity in attitude as well as

activity, they were in actuality only similar in activity. This finding implies that activity similarity may prompt individuals to develop and maintain friendships, but that strong friendships may be formed when certain attitudinal values are also shared.

Furthermore, Sprecher (1998) studied differences between three groups of students respectively in romantic relationships, non-romantic cross-gender friendships and same-gender friendships. The results revealed that perceived similarity in interests and leisure activities, instead of perceived similarity in attitudes and values, was a more important determinant of attraction in same-gender friendships than in either cross-gender friendships or romantic friendships, and that such similarity is particularly important for men's same gender friendships. Although the present thesis does not examine gender effects, it is important to point out possible gender differences, and this topic will be discussed further in the final chapter.

The few studies reviewed above were related to friendship and similarity among students. Johnson (1989) studied non-collegiate population of middle-class, middle-aged adults. He showed that the predictors of close friendship as opposed to mere acquaintance were actual educational similarity, residential similarity (proximity), and similarity in hobbies. Johnson (1989) concluded that there are differences in the predictors of friendship in the younger and older sections of the population, mainly relating to physical proximity and attractiveness (which are better predictors in student samples). Johnson's (1989) participants were mostly middle-class and middle-aged like the participants in the present experiment, although the context of the present study is business relationships rather than social relationships. My contention

here is that similarity in education and hobbies or interests, which are acquired characteristics, will be predictors of friendship relationship in business.

Although effects of friendship selection and socialisation are outside the scope of the present thesis, Kandel's (1978) and Fink and Wild's (1995) studies show some interesting results that further support the role of activity similarity as a predictor of friendship relationship. Kandel (1978) suggested that similarity could become greater as a result of a process of mutual influence in the course of friendship development. Fink and Wild (1995) investigated the relative influences of selection and socialisation on similarity in interest activities among friends during their leisure time. That is whether people were selected as friends because of interest similarity, or whether interest similarity developed during the course of ongoing socialisation. They found that there was no significant effect of interest similarity on the selection of friends, but there is a higher degree of similarity in forty-two leisure interests between friends six months later, supporting the influence of socialisation rather than selection. We may therefore expect that sharing similar interests may be conducive to the ongoing development of friendship, whether or not similar interests precede friendship.

Moreover, in Allan's (1989) sociological review of friendship, he suggests that friendship patterns and choices are shaped by the immediate social environment in which the network of social relationships is embedded. In this respect, the social environment affects not only the opportunities that individuals have for meeting other people socially and forming relationships, but also the content of the relationships, for example, the kind of activities engaged in, the frequency of interaction, and the

## Chapter 4

emotional closeness of the relationship (Allan, 1989). Shared environments such as work place and university provide physical proximity or propinquity that brings individuals into contact with one another (Fehr, 1996). Friendships are more likely to form when the work and school environment fosters interaction, and interdependence between people. Shulman (1975) found that friends were typically recruited from work, school and through other friends and kin. The study by Fischer et al. (1977) of men living in the Detroit area in 1965-1966 showed that the source of their closest friendships were work (26%), the neighbourhood (23%), childhood and juvenile friends (20%), kinship (7%), and voluntary organisations (7%). In this sense, we would expect that sharing a similar social environment such as work, school or university would be a common ground shared between business executives and their strongest business friendship ties.

Earlier in the preceding section, it was argued that trust and friendship are associated.

It is further hypothesised that:

H5

*Common ground, such as interests and hobbies, education, and social environment at work, school or university will be a reliable direct predictor of trust between business executives and their strongest business ties with friendship.*

Furthermore, earlier in the section of gender and race similarity, this thesis posited that the association between value similarity and friendship choice may be more important than the association between gender or race similarity and friendship choice.

A study by Deutsch et al. (1991) on self-descriptive trait similarity of 58 pairs of

female first-year roommates revealed that trait overlap was greater for friends than that for non-friends. Examples of self-descriptive traits were cheerful and adventurous. Their findings further suggested that “it is specifically exposure to a friend’s way of thinking that should be key in the development of self-concept and in the resulting similarity between friends” (Deutsch et al., 1991, p. 410). In this sense, development of attitude similarity might have caused self-concept trait overlap between friends, although the causal relationship was not tested in their study. Nevertheless, we may expect that attitude overlap influences friendship formation. The more important an attitude is to the individual, the more it will influence choice of friends (Kandel, 1978). It is therefore hypothesised that:

H6

*Sharing similar business values will be stronger between business executives and their strongest business ties with friendship than the strongest business ties without friendship.*

Thus far, common ground has been hypothesised (H5) as a direct predictor of trust between business executives and their strongest business ties with friendship. A relevant question to raise here is whether common ground, will be a direct or indirect predictor of trust between business executives and their strongest ties with friendship independent of the influence of Relationship Association and sharing similar business values. As a consequence of sharing similar education, hobbies or interests, and similar social environment in the past at work, school or university, people may feel more affinity towards each other, and thus the chances of forming friendship will be increased. If they interact outside office hours, have worked together, and have known

each other well, it is likely that the relationship will be stronger. Consequently, trust between dyads will become stronger. We may expect that the more common ground shared between members of a dyad, the stronger the relationship between them will be, and the more they will trust each other. Therefore, we would expect that the effect of common ground on trust in the strongest ties with friendship would be mediated by the construct of Relationship Association. It is therefore hypothesised that:

H7

*The effect of common ground on trust level with the strongest business friendship ties will be indirect and mediated by the construct of Relationship Association.*

Further, by the same logic, it might be expected that the more common ground and the more similar business values are shared, the stronger will be the level of trust between business executives and their strongest business friendship ties. It is likely that the effect of common ground on trust may also be mediated by sharing similar business values. It is therefore hypothesised that:

H8

*The effect of common ground on trust level with the strongest business friendship ties will be indirect and mediated by sharing similar business values.*

### 4.5 Trust and Reliability

Thus far, three possible predictors of trust, Relationship Association, value similarity and common ground, have been proposed. The fourth possible antecedent of trust is

how often business executives have been let down by their strongest business ties.

This section examines the relationship between trust and reliability, which will lead to a hypothesis.

The experiment in Part A of this thesis explored trust in terms of expectations, and the expectation of reliability was found to be fundamental. In Gabarro's (1978) study of trust bases (conditions) between new presidents and their executives in four companies, they used terms such as reliability, predictability and so forth to describe how much consistency mattered to both parties. When trust is tied to "a generalised expectancy held by an individual that the word, promise, oral or written statement of another individual or group can be relied on" (Rotter, 1967, p. 65), violation of this expectation is understood through concepts of morality. The consequence would invariably be feelings of being let down (Kahn & Turiel, 1988). Further, Zucker's (1986) process-based trust emphasises histories of consistently reliable exchanges or transactions. The past history of reliable business dealings and incidences of disappointments would influence how much an individual would trust his business associates now. In the context of the thesis, I predict that trust will be negatively associated with the frequency of being let down in incidents when strongest ties fail to keep a promise or exaggerate what can be delivered. It is therefore hypothesised that:

H9

*How often business executives have been let down by their strongest business ties will be a significant predictor of trust level.*

4.6 Study Hypotheses

Thus far, this literature review has explored various possible antecedents of trust with the strongest business ties with and without friendship as a comparing contrast.

Possible indirect effects of common ground on trust have also been predicted. Below is a summary of all the hypotheses being proposed:

H1

*Relationship Association will be a significant predictor of business executives' trust in their strongest business ties with or without friendship.*

H2

*Relationship Association will be stronger between business executives and their strongest business ties with friendship than with strongest business ties without friendship.*

H3

*Sharing perceived similarity in business values will be a significant predictor of trust between business executives and their strongest business ties with or without friendship.*

H4

*Trust will be higher for strongest business ties with friendship than for strongest business ties without friendship.*

H5

*Common ground, such as interests and hobbies, education, and social environment at work, school or university will be a reliable direct predictor of trust between business executives and their strongest business ties with friendship.*

H6

*Sharing similar business values will be stronger between business executives and their strongest business ties with friendship than the strongest business ties without friendship.*

H7

*The effect of common ground on the trust level in the strongest business friendship ties will be indirect and mediated by the construct of Relationship Association.*

H8

*The effect of common ground on the trust level in the strongest business friendship ties will be indirect and mediated by sharing similar business values.*

H9

*How often business executives have been let down by their strongest business ties will be a significant predictor of the trust level.*

In the next chapter, an experiment will be presented to examine these hypotheses.

### **A Study to Examine Interpersonal Trust between Business Executives and their Strongest Ties with and without Friendship**

The preceding chapter presented the rationale for assessing a number of direct and indirect predictors of interpersonal trust in the context of strongest business ties with and without friendship. In particular, my main interest is to explore whether sharing certain common ground and business values directly and indirectly influences trust in strongest business ties with friendship. Although there has been work concerning relationship strength in social networks, no previous research has examined the relationship between trust and relationship strength in samples of business executives and their strongest ties. This thesis has proposed a construct of Relationship Association in order to reflect the context of strongest business ties rather than strong ties in general social networks. This chapter presents an exploratory study to examine the set of hypotheses summarised at the end of the previous chapter.

The chapter begins by describing the research methods, the measures being designed to examine the hypotheses, outlining the demographic profile of the participants, and the analytic procedures. The research findings are then presented in four major parts: i) tests of differences between variables; ii) analyses of factor structures of continuous and categorical variables iii) item-parcels of related variables; iv) and structural equation modelling to test for predictor relationships with trust between business executives and their strongest ties with and without friendship. Finally, the results are summarised and discussed in the last section.

### 5.1 Research Method

A similar approach to that adopted for the experiment in Part A was used to test the hypotheses. The questionnaire was piloted on a small group of business executives to ensure that the measured items were understandable, to develop new items relating to business values, and to include other characteristics that are relevant to the experiment. Participants were given the choice of completing either a paper and pencil questionnaire or an electronic form on the Internet (See Appendix F for a copy of the questionnaire). The items that are relevant to the present thesis are described in the following section.

#### 5.1.1 Measures

In order to examine the hypotheses, a number of questionnaire measures were developed. Sample items are listed in Table 5.1 below. The rest of the items can be found in Appendix F. Respondents were asked to think of their three strongest ties (Person A, B and C) among their core networks of strong ties, and to report on various characteristics of each person. The original intention was to average the measured characteristics of person A, B and C. This was subsequently proved to be statistically inadequate because of high variability between the scores of person A, B and C.

Since this was an exploratory study, other possible types of relationships were solicited among the three strongest ties in order to obtain a less biased set of data. They were 'friendship only', 'relative only', and 'relative with business relation'. The three strongest ties of any participants could have a combination of the five types of

ties, such as two 'business relation and friendship', and one 'friendship only', or three 'business relation only'. The relevant data for testing the hypotheses were only those respondents who have at least one tie labelled as 'business relation and friendship' (called Tie Type 1), and/or 'business relation only' (called Tie Type 2). Thus, two subsets of within subject data were extracted for analyses:

The first subset of data consisted of Tie Type 1 that was the first person among Person A, B and C in each participant's responses, who was labelled as 'business relation and friendship'.

Similarly, the second subset of data consisted of Tie Type 2 that was the first person among Person A, B and C in each participant who was labelled as 'business relation only'.

An iterative interview process was conducted with twenty business executives, who were mainly business owners in Oxford and London areas, and another twelve business owners in Shanghai, China. The thirty-two interviews in total were conducted as an exploratory exercise on the qualitative level without a standardised format. The purpose was to define the focus of the present study and the third study in Part C of this thesis, and form the basis of some of the items in these two studies. Originally, the present study was intended to be a cross-cultural comparison with China. Hence, interviews with the Chinese counterparts were included. However, the cross-cultural component subsequently proved impractical. Therefore, the present study focused only on examining trust values among business executives in Southern England.

### **Common Ground and Business Values**

On the basis of the interviews, I decided to add items relating to common ground and business values. They were ‘similar hardship in the past’, ‘similar professionalism’, ‘similar ideas and visions’, and ‘similar business principles’. All other items were generated on the basis of a review of published literature concerning homophily, relational demography and similarity. Responses of ‘yes’, ‘no’ and ‘don’t know’ were solicited on all these items. A pilot-test of the draft questionnaire was also carried out during the later half of the iterative interview process, which also resulted in a number of minor amendments.

### **Relationship Association**

The construct of Relationship Association was proposed in the preceding chapter. The proposed six items were measured for each Person A, B and C on a nine-point scale with 1 being not at all and 9 being the highest score. For example, the highest score for the item of ‘how much have you worked with each person?’ was 9 meaning ‘a great deal’. The item of ‘how well would you say you know each person?’ had a highest score of 9 meaning ‘extremely well’. Table 5.1 shows the rest of the items.

### **Importance of Common Ground and Business Values**

In addition to the items listed in Table 5.1, a question about the degree of importance of each of the aspects of common ground and business values in building trust with all the strong ties that formed the core network was included. Although there has been no research literature to suggest influence of the importance of values on trust, these additional measures were included for exploratory purpose. Because of a lack of past research, no specific hypothesis has been proposed. Analysis will be carried out to test

## Chapter 5

whether importance values have a direct or indirect influence on the trust level between business executives and their strongest ties with and without friendship.

Trust was measured by a single item: “what is your level of trust in each person?” Responses were solicited on a nine-point scale, from “not at all” (1) to “extremely high” (9).

Table 5.1 Some Sample Items Measuring Interpersonal Trust between Business Executives and their Three Strongest Ties

How much have you worked with each person?

1 = not at all ..... 9 = a great deal

How well would you say you know each person?

1 = not at all ..... 9 = extremely well

How well would you say you know each person's close family members?

1 = not at all ..... 9 = extremely well

How often have you been let down by each person?

1 = not at all ..... 9 = very often

How often do you interact with each person outside office hours?

1 = not at all ..... 9 = very often

What is your level of trust in each person?

1 = not at all ..... 9 = extremely high

Do you share the following characteristics with each person?

1 = yes      0 = No      2 = Don't know

similar family background

similar hardship in the past

have gone through a period in a similar social/cultural environment

similar hobbies or interests

similar professionalism (i.e. disciplined approach to business)

similar ideas and visions

similar business principles

....

How important are these following characteristics in building trust with ALL your strong ties that form your core network?

1 = not at all ..... 5 = moderately important ..... 9 = extremely important

similar family background

similar hardship in the past

have gone through a period of similar social cultural background

similar hobbies or interests

....

### 5.1.2 Research Participants

The sample consisted of 124 participants, who were recruited at various breakfast clubs and business dinners. This was a separate sample from that used in Part A of this thesis, although all participants were recruited in the same places at the same time. Participants were allocated to questionnaire version A or B depending on whether their birthdates were odd or even.

Among the 124 participants, 99 had one or more than one ‘business relation and friendship’ as a strongest tie, i.e. Tie Type 1, and 85 had one or more than one ‘business relation only’ as a strongest tie, i.e. Tie Type 2. As a whole, there were 61 out of 124 participants who had one Tie Type 1 and one Tie Type 2 among their three strongest ties. The following analyses are based on both Tie Type 1 and 2 data sets. Other participants were not relevant for analysis in this thesis, given the proposed hypotheses. All 124 participants identified their main cultural identity as British with English as their native tongue.

#### **The 99 Strongest Business Friendship Ties – Tie Type 1 Data Set**

There were 77 males with a mean age of 47.40 ( $SD = 9.34$ ), and 22 females with a mean age of 41.86 ( $SD = 6.01$ ). Female participants were significantly younger than their male counterparts [ $t(98) = 2.62, p < 0.01$ ]. 67 of the male participants had same-gender strongest ties, and the rest, 10, had cross-gender strongest ties. However, 10 of the 22 female participants had same-gender strongest ties, and the rest, 12, had cross-gender ties. The chi-squared test statistic showed that there were significantly more male participants who had same-gender strongest friendship ties than female

participants ( $\chi^2 = 12.05$ ,  $df = 1$ ,  $p < 0.001$ ). Obviously, this is partly dependent on the population of business executives who are mainly men.

The mean number of years that respondents had known their strongest business friendship ties was 9.46 ( $SD = 6.9$ ). Of the 99 strongest business friendship ties, 84 shared similar cultural identity of British with the participants. The remaining 15 were Non-British Caucasian, Asian and others. Further, 80 of the 99 strongest business friendship ties came from the same social class as the participants. The social class of the remaining 10 was higher than that of the participants, and that of 9 was lower.

Of the 99 participants in this sample, 80 were in category 1 (business owners who owned an equity stake of at least 5% or more of their business). 19 were in category 2 (senior executives who had important external business relationships either with customers, suppliers or creditors but did not have an equity stake of 5% or more).

### **The 85 Strongest Business Ties without Friendship – Tie Type 2 Data Set**

There were 67 males with a mean age of 48.45 ( $SD = 8.79$ ), and 18 females with a mean age of 44.83 ( $SD = 14.83$ ). 57 of the male participants had same-gender strongest ties, and the rest, 10, had cross-gender strongest ties. In comparison, only 4 of the 18 female participants had same-gender strongest ties, and the rest, 14, had cross-gender ties. The chi-squared test statistic also showed that there were significantly more male participants who had a higher ratio of same-gender strongest ties than female participants ( $\chi^2 = 27.51$ ,  $df = 1$ ,  $p < 0.001$ ). Similarly, this result

partly reflects the fact that there are a higher proportion of male business executives in the population.

The mean number of years that respondents had known their strongest business ties without friendship was 4.97 ( $SD = 5.4$ ), which was significantly less than the mean number of years of strongest business friendship ties [ $t(181) = 4.94, p < 0.001$ ]. As might be expected, the longer the relationships, the more likely it was that the ties had become friends. Of the 85 strongest business ties, 76 shared similar cultural identity of British with the participants. Further, 65 of the 85 strongest business ties came from the same social class as the participants. The social class of the remaining 9 was higher than that of the participants, and that of 11 was lower.

Of the 85 participants in this sample, 68 were in category 1 (business owners who owned an equity stake of at least 5% or more of their business). 17 were in category 2 (senior executives who had important external business relationships either with customers, suppliers or creditors but did not have an equity stake of 5% or more).

### 5.1.3 Analytic Procedures

The analyses consisted of paired samples t-tests on the measures of Relationship Association and trust, exploratory factor analysis employing principal component analysis respectively for continuous and categorical data, and the maximum likelihood approach to estimate parameters of structural equation modelling. Before the analyses were carried out, the data set in each sample was checked for any

significant differences between Internet and paper entry, missing data, and multivariate normality. The results of these data integrity check are outlined below:

First, of the 99 strongest business friendship ties, 47 entries were captured through the Internet, and 52 entries from the paper survey. There were no significant differences<sup>1</sup> in any items between the Internet and paper surveys. Of the 85 strongest business ties, it was found that there were no significant differences between the 35 Internet and the 50 Paper entries in the means of any of the measured items.

Second, seven missing data points were found. The same procedure as used in Part A to treat the missing data was carried out. The few participants were asked through emails what the score should have been. Finally, there were three missing data in Tie Type 1 data set. 'Let down'<sup>2</sup> was replaced by a mean score of 1.80 for two cases, and 'Work with'<sup>3</sup> was replaced by its mean score of 6.95 for one case. In Tie Type 2 data set, there were two missing data in one case. 'Know close family members' was replaced by a mean score of 1.8, and 'Let down' was replaced by its mean score of 2.18. Replacing missing values with mean scores is one of the standard practices reviewed by Byrne (2001, p. 290). This procedure can be problematic if there are quite a few missing data. Byrne (2001) points out that the variance of the variable will be smaller, which will affect the computation of the variance and covariance matrix in

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<sup>1</sup> There was a significant difference in the means of one item, sharing similar business principles, between the Internet and the paper entry (Mean of Internet entry = 0.83, Mean of paper entry = 0.96,  $t(97) = -2.14, p < 0.05$ ). However, by applying a Bonferroni correction on 49 multiple comparisons, the significant level for the individual test became 0.001. Thus, this item was not significant.

<sup>2</sup> 'Let down' was the measure of 'how often business executives have been let down by their strongest business ties'.

<sup>3</sup> 'Work with' was the measure of 'how much have you worked with each strongest ties?'

structural equation modelling. It is viewed that the effect is small when there are only two missing data out of 99 in the variable of 'Let down' in Tie Type 1 data set.

Third, the degree to which the data met the assumptions of multivariate normality in sample 1 and sample 2 was examined. The items measuring common ground and business values were categorical variables on a non-continuous 3-point scale (yes, no and don't know), but the rest of the variables were continuous on a nine-point scale. When common ground and business values items were created at the questionnaire design stage, it was anticipated that the number of 'yes' responses for each characteristic would be counted. However, analyses using principal component analysis and structural equation modelling were subsequently found to be essential. A procedure called item parcelling was carried out in order to alleviate the problem of non-normality. More detailed explanation is presented in the next section.

### **Item Parcelling**

Bentler and Chou (1987, p.88) note that, given normally distributed categorical variables, "continuous methods can be used with little worry when a variable has four or more categories, but with three or fewer categories one should probably consider the use of an alternative procedure." One approach to rectify the problem is to sum the raw scores of some of the items into a composite score. The procedure of item parcelling creates a latent continuous variable (Bentler & Chou, 1987). Hence, the parcelling procedure involved summing the 'yes' responses of three or four items of shared characteristics in order to create a latent continuous variable of four or five categories respectively. An advantage of parcelling was to develop a more continuous and normally distributed structure for the latent variable, thereby permitting closer

conformance to the assumptions of normal theory-based estimation methods such as maximum likelihood.

Bandalos and Finney (2001) give a comprehensive review of issues in item parcelling in factor analysis and structural equation modelling, since the practice of parcelling as the basic unit of analysis in structural equation modelling has become quite common<sup>4</sup> in recent years. Two key issues relevant to the present experiment are summarised below:

1. The first issue is possible misspecification of a model because of the use of item parcelling. A failure to reject the model represents a Type II error. Bandalos and Finney's (2001) view that improvement of model fit in using item parcels is at the expense of possible model misspecification, and losing information that is useful in understanding relationships among the individual items.
2. Bandalos and Finney (2001) recommend as a general principle that items to be parcelled together should represent the same unidimensional construct or factor, and that the unidimensional factor structures of the latent construct should have been established in previous studies. Influence of any secondary factor on the items being parcelled must be relatively weak. If these conditions are met, the use of item parcelling is more defensible.

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<sup>4</sup> Bandalos and Finney (2001) found that of 317 applied structural equation modelling and confirmatory factor analysis studies, 62 (19.6%) employed some type of parcelling procedure in the disciplines of psychology, education and marketing from 1989 to 2001.

However, the present study represents a new area of research, which has taken place without any definite reference to past research studies. In responding to the two issues highlighted earlier, four analytic procedures are therefore proposed below. The results will be presented in the following section.

1. An exploratory factor analysis on categorical data will be carried out on all the items related to common ground and business values.
2. Items that have high loadings, and are unidimensional will be parcelled on an exploratory basis to form a latent factor for structural modelling. Analyses will then be data driven.
3. However, in order to test four hypotheses, items that correlate with each other will be separately parcelled according to each hypothesis in order to form four different latent factors for structural modelling. Analyses will also be hypotheses driven. The results of the structural modelling using the item parcels that gives the more adequate model fit will be presented whether the analyses are data driven or hypotheses driven.
4. The extent of multivariate non-normality prior to and after parcelling will be examined by referencing to Mardia's (1970) coefficient of multivariate kurtosis, which is available in the AMOS output on normality check. This is the same procedure summarised in Section 3.1.3 of Part A. The extent of multivariate non-normality of other continuous variables will be examined when the measurement model is derived. The procedure of bootstrapping in structural equation modelling will also be applied in assessing significance of paths in the presence of non-normal data.

### 5.2 Results

Four sets of results, contrasting trust between business executives and their strongest ties with friendship (Tie Type 1 data set) and without friendship (Tie Type 2 data set) are presented. First, paired samples t-tests were performed to test for significant differences between groups in Tie Type 1 and Tie Type 2 data sets. Second, the factor structures of the related items on continuous and non-continuous scales were analysed. The measurement model<sup>5</sup> of the factor structure on continuous variables was also analysed using AMOS. Third, where it was appropriate, some items were parcelled based both on what the data showed and on what the hypotheses proposed. Fourth, the structural models were assessed for model fit and various predictor relationships based on the hypotheses respectively for Tie Type 1 and Tie Type 2 data sets.

#### 5.2.1 Tests for Significant Differences between Variables

The first set of the findings was derived from paired samples t-tests for significant differences between variables for hypothesis two (H2), four (H4), and six (H6). These tests were carried out on the 61 participants who had both types of ties in both Tie Type 1 and 2 data sets.

The first paired samples t-test was performed on the construct of Relationship Association for both data sets by comparing the means of the item parcels of Relationship Association, which were the sums of the scores of the underlying five

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<sup>5</sup> The importance of measurement model and its relation to structural model is explained in Section 3.2.2 of Chapter 3.

variables divided by five. Table 5.2 shows the means of the variables. It was found that Relationship Association was significantly stronger with strongest business ties with friendship than those without friendship [mean = 5.6 ( $SD = 1.65$ ) in Tie Type 1, mean = 3.73 ( $SD = 1.18$ ) in Tie Type 2,  $t = 8.480$ ,  $df = 60$ ,  $p < 0.001$ ] as predicted by hypothesis two (H2).

The second paired samples t-test was carried out on the variable of “trust level in each ST”. It was found that trust in the strongest business ties with friendship was significantly higher than trust in the strongest business ties without friendship [mean = 7.95 ( $SD = 1.10$ ) in Tie Type 1, mean = 6.72 ( $SD = 1.77$ ) in Tie Type 2,  $t = 5.148$ ,  $df = 60$ ,  $p < 0.001$ ] supporting hypothesis four (H4).

A similarly test was carried out for the item parcel of sharing similar ideas/visions and business principles for both data sets. It was found that sharing these two business values with the strongest business ties with friendship was not significantly higher than that with the ties without friendship [mean = 1.80 ( $SD = 0.51$ ) in Tie Type 1, mean = 1.61 ( $SD = 0.69$ ) in Tie Type 2,  $t = 1.94$ ,  $df = 60$ ,  $p = 0.06$ ]. Hence, hypothesis six (H6) was not supported:

Table 5.2 Means and Standard Deviations of the Variables of Relationship Association for the Paired Sample T-Test within Tie Type 1 and 2 Data Sets

	With Friendship N = 61		Without Friendship N = 61	
	Mean	Std. Deviation	Mean	Std. Deviation
Know each ST	6.75	1.63	4.70	1.66
Interact with each ST	4.56	2.19	2.13	1.40
Worked with each ST	6.95	1.80	5.44	2.17
Know each ST's family	4.39	2.69	1.85	1.28
Depend on each ST's resources	5.33	2.45	4.54	2.08

A closer inspection of the means of the variables of Relationship Association was carried out (see Table 5.2). While the mean of interaction with the strongest business ties outside office hours was 2.13 on a 9-point scale (with 1 = not at all and 9 = very often), the mean of interaction with strongest business friendship ties was 4.56, which was around the mid-point. How well business executives knew their strongest business friendship ties' close family members was also around the mid-point (mean = 4.39). We may question whether strongest business friendship ties were different from best/close social friendship ties with whom interaction outside office hours are expected to be higher than average. This will be discussed in the final section of the chapter.

### 5.2.2 Factor Structure

Three sets of exploratory factor analyses were respectively performed on three groups of independent variables for both data sets (Tie Type 1 and Tie Type 2). The first set was related to the measure of Relationship Association. The second set consisted of

items related to common ground and business values. The final group of variables concerned the importance scores of common ground and business values. This exploratory approach was used because of a lack of prior knowledge about the new construct of Relationship Association, sharing of common ground and business values, and their importance values. On the basis of the literature review or the interviews, a number of items were created in each hypothesised constructs (see Section 5.1.1) in order to explore the underlying latent variable structure. The respective factor structures are summarised below. Detailed analyses are documented in Appendix B. The procedure of exploratory factor analyses using the principal component extraction method in SPSS was applied to the two groups of variables that were on continuous Likert scales. The objectives were respectively to clarify the factor structure of Relationship Association, and to explore the factor structure of the importance scores. However, the procedure of principal components analysis for categorical data in SPSS was applied to the variables of common ground and business values.

Confirmatory factor analyses were also performed on the two sets of variables with continuous data. This was to derive the measurement models using AMOS such that structural models could be defined and tested according to the hypotheses.

### 5.2.2.1 Factor Structure of Relationship Association

Principal components analysis with varimax rotation was conducted as exploratory factor analysis on 7 items in both data sets. Eigenvalue greater than 1 was the extraction criterion. The results are summarised below:

### Tie Type 1 Data Set – Strongest Business Ties with Friendship

A three-factor solution was found, but for two of the factors, there was only a single item with a loading greater than 0.51. ). For a sample size of 99, Stevens (2002, p.393-394) suggests that a statistical significant loading must be greater than two times its standard error, i.e. two times the critical value, for a correlation coefficient at  $\alpha = 0.01$  for a two-tailed test. In the present case, only loadings  $> 2 (0.256^6) = 0.51$  were regarded as significant. Table 5.3 is a loading matrix and shows the factor loadings of the five variables between 0.68 and 0.80 on the first factor. The variance explained by the factor was 41%, and the eigenvalue was 2.9 (B.1 of the scree-plot in Appendix B). This factor constitutes the latent construct of Relationship Association, which was proposed in Chapter 4. Therefore, Relationship Association comprises the following five variables:

#### Relationship Association

1. How much you have worked with each person
2. How well you know each person
3. How well you know each person's close family members
4. How often you interact with each person outside office hours
5. The extent to which you and each person both depend on this relationship in terms of utilising each other's resources

### Tie Type 2 Data Set – Strongest Business Ties without Friendship

A two-factor structure was found, but for one of the factors, there was only a single item with a loading greater than 0.56. For a sample size of 85, only loadings  $> 2 (0.279^7) = 0.56$  were regarded as significant. The same five items were extracted as above, and had loadings between 0.61 and 0.78 on the first factor (see Table 5.4). The

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<sup>6</sup> The critical value of 0.256 was quoted from Table 11.1 in Stevens (2002, p.394).

variance explained by the factor was 36%, and the eigenvalue was 2.5 (B.2 of the scree-plot in Appendix B). Therefore, the latent construct of Relations Association is common to both data sets.

Table 5.3 Principal Components Analysis Loadings of the First Group of the Independent Variables for Tie Type 1 Data Set

Variables	Factor 1	Factor 2	Factor 3
Years known with each ST	.09	<b>.92</b>	.03
$\alpha = 0.80$			
Worked with each ST	<b>.68</b>	-.32	.23
Know each ST	<b>.80</b>	.18	.15
Know each ST's family	<b>.76</b>	.25	-.18
Interact with each ST	<b>.77</b>	.22	.06
Depend on each ST's resources	<b>.73</b>	-.16	-.04
Let down by each ST	-.06	.03	<b>.97</b>

Note: Bold figures indicate primary factor loadings of an item.  $\alpha$  is Cronbach alpha reliability. Principal Component extraction and varimax rotation were performed.

Table 5.4 Principal Components Analysis Loadings of the First Group of the Independent Variables for Tie Type 2 Data Set

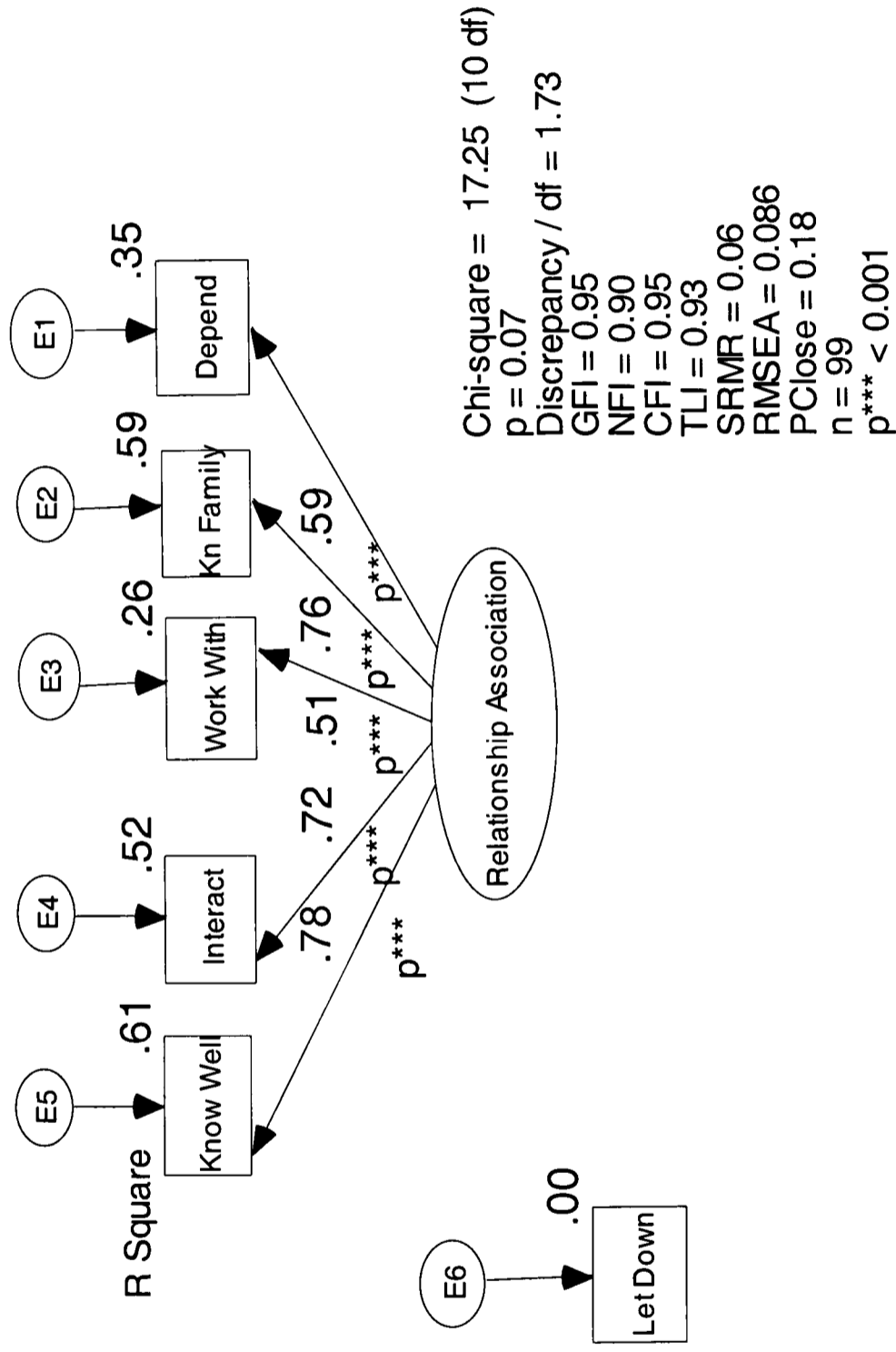
Variables	Factor 1	Factor 2
Years known with each ST	.27	<b>.78</b>
$\alpha = 0.72$		
Worked with each ST	<b>.70</b>	-.22
Know each ST	<b>.78</b>	.07
Know each ST's family	<b>.68</b>	.12
Interact with each ST	<b>.70</b>	.29
Depend on each ST's resources	<b>.61</b>	.48
Let down by each ST	.05	.44

The measurement models of the factor structures for both data sets that represented the confirmatory factor analysis models were derived in AMOS before a structural

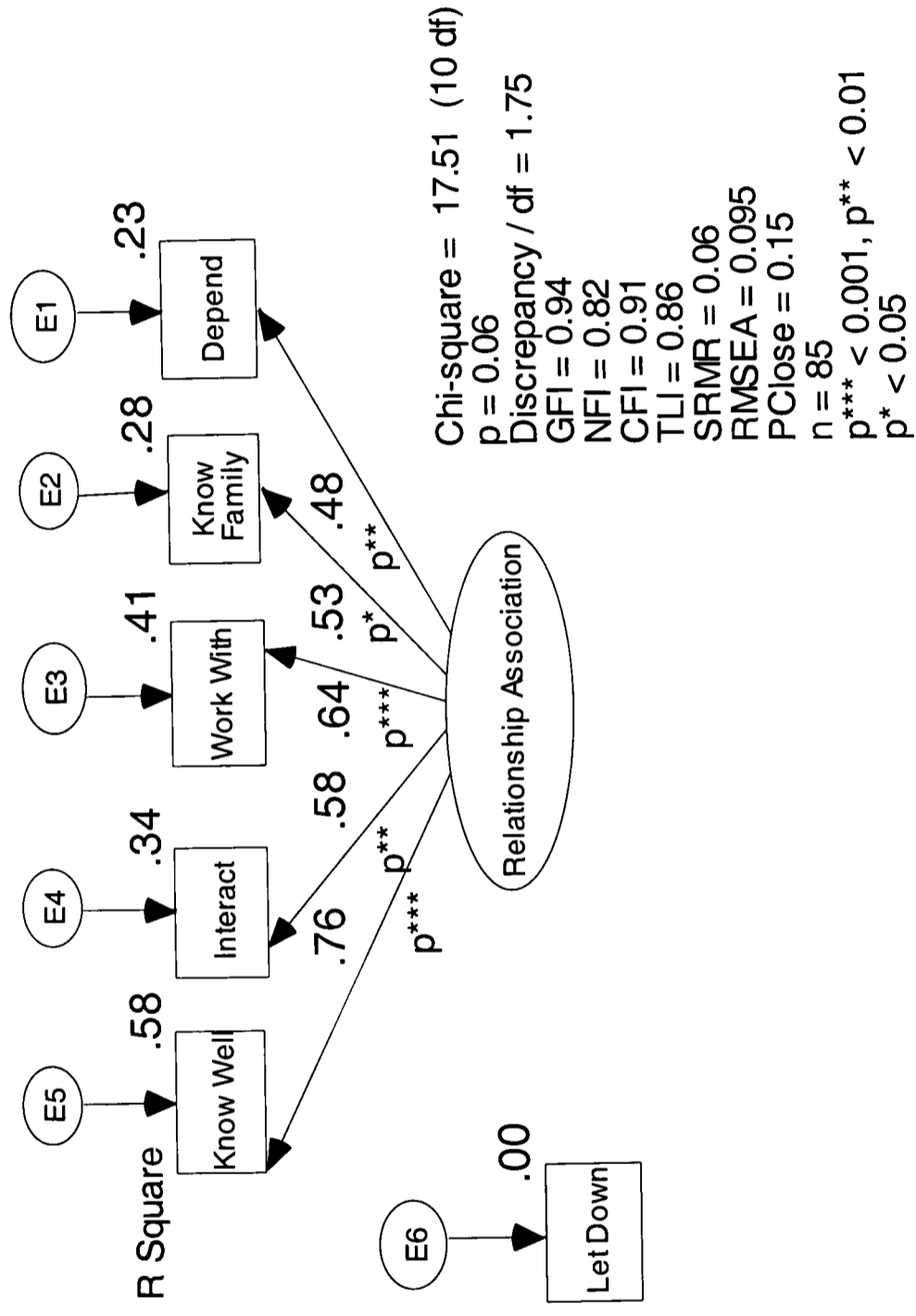
<sup>7</sup> The critical value of 0.279 was computed from the critical value of 0.286 when  $n = 80$  and that of 0.256 when  $n = 100$  in Table 11.1 in Stevens (2002, p.394).

## Chapter 5

model with other factors (variables) was explored. Figure 5.1 shows the measurement model of Relationship Association for Tie Type 1 data set, and Figure 5.2 for Tie Type 2 data set. Generally, the sample data fitted the measurement model in both data sets. Principal component extraction method in SPSS and confirmatory factor analysis in AMOS gave similar results of the factor structures. The chi-square statistics and the indices in AMOS outputs are presented in Appendix B as B.3.



**Figure 5.1 Measurement Model of Relationship Association Business Executives with Strongest Business Ties with Friendship**



**Figure 5.2 Measurement Model of Relationship Association Business Executives with Strongest Business Ties without Friendship**

### 5.2.2.2 Factor Structures of Common Ground and Business Values

Principal components analysis for categorical data in SPSS was conducted respectively on 15 items for both data sets. The optimal scaling level for analysis was set at nominal. This was to preserve the grouping of objects in the categories of “yes”, “no” and “don’t know”, but not the order of the categories. The results are summarised below:

#### Tie Type 1 Data Set – Strongest Business Ties with Friendship

Principal components were extracted by defining the number of components in the procedure as three, four, five, and beyond. It was found that the first three factors being extracted were the same whether the number of extracted solutions was three, four or five. Thus, the first three factors were stable. Total variance explained by the three factors was 45%. The variances explained by Factor 1, 2 and 3 were respectively 19%, 14% and 12%. The eigenvalues were correspondingly 2.8, 2.1 and 1.8. The Cronbach’s Alphas of each factor were 0.70, 0.56 and 0.50. The items loading on each factor are shown in Table 5.5. For example, the items of Factor 1 were sharing similar family background, religion, education, hardship, hobbies or interests.

Although the eigenvalues of the first three factors may suggest three underlying components, the reliabilities of scales representing Factor 2 and Factor 3 are rather disappointing. For the purpose of exploring the hypotheses, Factor 2 and Factor 3 will respectively form an item parcel by adding the ‘yes’ scores of similar ideas and visions, and business principles. However, findings from analysis using these item parcels need to be treated with caution.

### Tie Type 2 Data Set – Strongest Business Ties without Friendship

Two factors were extracted in Principal components analysis. The items loading on each factor are shown in Table 5.6. The total variance explained by the two factors was 36%. Factor 1 accounted for 20% of the variance with an eigenvalue of 3.0. Factor 2 accounted for 16% variance with an eigenvalue of 2.4. Both factors had Cronbach's Alpha values of greater than 0.60. These two groups of items will be parcelled into separate item-parcels for further analyses in the following section.

With reference to the analytic procedure 2 outlined in Section 5.1.3, the variables of Factor 1, 2 and 3 in Tie Type 1 data set and those of Factor 1 and 2 in Tie Type 2 data set were item-parcelled by adding the 'yes' scores of the related variables for the purpose of exploring the hypotheses. The hypothesis testing of these item-parcels was data driven. Additional item-parcelling based on the hypotheses proposed in the preceding chapter will be shown in Section 5.2.3.

Table 5.5 Principal Components Analysis Loadings of the Second Group of the Independent Variables for Tie Type 1

Variables	Component 1	Factor 2	Factor 3
$\alpha = 0.70$			
Similar family background	<b>.74</b>	-.05	-.02
Similar religion	<b>.67</b>	.22	-.03
Similar education	<b>.63</b>	-.02	-.20
Similar hardship	<b>.62</b>	-.18	.15
Similar hobbies or interests	<b>.71</b>	-.04	-.03
$\alpha = 0.57$			
Common native tongue	.08	<b>.90</b>	.40
Similar cultural identity	.06	<b>.90</b>	.39
$\alpha = 0.48$			
Similar ideas and visions	-.03	.45	<b>.67</b>
Similar business principles	.10	-.43	<b>.83</b>

Note: Bold figures indicate primary factor loadings of an item.  $\alpha$  is Cronbach alpha reliability. Principal Component analysis for categorical data was performed. Nominal data was selected.

Table 5.6 Principal Components Analysis Loadings of the Second Group of the Independent Variables for Tie Type 2

Variables	Factor 1	Factor 2
$\alpha = 0.71$		
Similar education	<b>.66</b>	.08
Similar hardship	<b>.68</b>	.14
Similar ideas and visions	<b>.63</b>	.11
$\alpha = 0.63$		
Common native tongue	-.01	<b>.69</b>
Similar cultural identity	-.16	<b>.73</b>
Similar professionalism	.05	<b>.78</b>
Similar business principles	.35	<b>.66</b>

Note: Bold figures indicate primary factor loadings of an item.  $\alpha$  is Cronbach alpha reliability. Principal Component analysis for categorical data was performed.

### 5.2.2.3 Factor Structure of Importance of Shared Common Ground and Business Values

Principal components analysis with varimax rotation was conducted on 16 items for both Tie Type 1 and Tie Type 2 data sets. Eigenvalue greater than 1 was the extraction criterion. The results are summarised below:

#### Tie Type 1 Data Set - Strongest Business Ties with Friendship

A three-factor structure was found (see Table 5.7). The variances explained by Factor 1, 2 and 3 were 36%, 16% and 9% respectively with eigenvalues of 5.8, 2.5 and 1.4 (B.8 of the scree-plot in Appendix B). The internal reliabilities of all the factors were greater than 0.80. The items loading highest on each factor are shown in Table 5.7. Factor 3, importance of business values, will be examined for exploratory testing later in this chapter.

#### Tie Type 2 Data Set - Strongest Business Ties without Friendship

A similar three-factor structure was found except that importance of sharing similar education was not included in Factor 1 (see Table 5.8). The items in Factor 2 and Factor 3 were unchanged. The variance explained by Factor 1 was 38%, by Factor 2 was 16% and by Factor 3 was 8%. The respective eigenvalues were 6.0, 2.5 and 1.3 (B.9 of the scree-plot in Appendix B). The internal reliabilities of each factor were respectively 0.79, 0.82 and 0.89. Similarly, Factor 3, importance of business values, will be examined for exploratory testing later in this chapter.

Table 5.7 Principal Components Analysis Loadings of the Third Group of the Independent Variables for Tie Type 1

Variables	Factor 1	Factor 2	Factor 3
$\alpha = 0.82$			
Importance of similar age	<b>.75</b>	-.15	.14
Importance of similar family background	<b>.81</b>	.28	.01
Importance of similar geographical background	<b>.68</b>	-.0001	.03
Importance of same gender	<b>.85</b>	.18	.03
$\alpha = 0.83$			
Importance of similar social class	.19	<b>.72</b>	.07
Importance of similar education	.25	<b>.64</b>	.05
Importance of similar hardship	.18	<b>.79</b>	.004
Importance of similar social cultural environment	.13	<b>.73</b>	.19
Importance of similar hobbies or interests	.29	<b>.65</b>	.30
$\alpha = 0.88$			
Importance of similar professionalism	.02	.15	<b>.88</b>
Importance of similar ideas and visions	.03	.17	<b>.87</b>
Importance of similar business principles	.02	.01	<b>.90</b>

Note: Bold figures indicate primary factor loadings of an item.  $\alpha$  is Cronbach alpha reliability. Principal Component extraction and varimax rotation were performed.

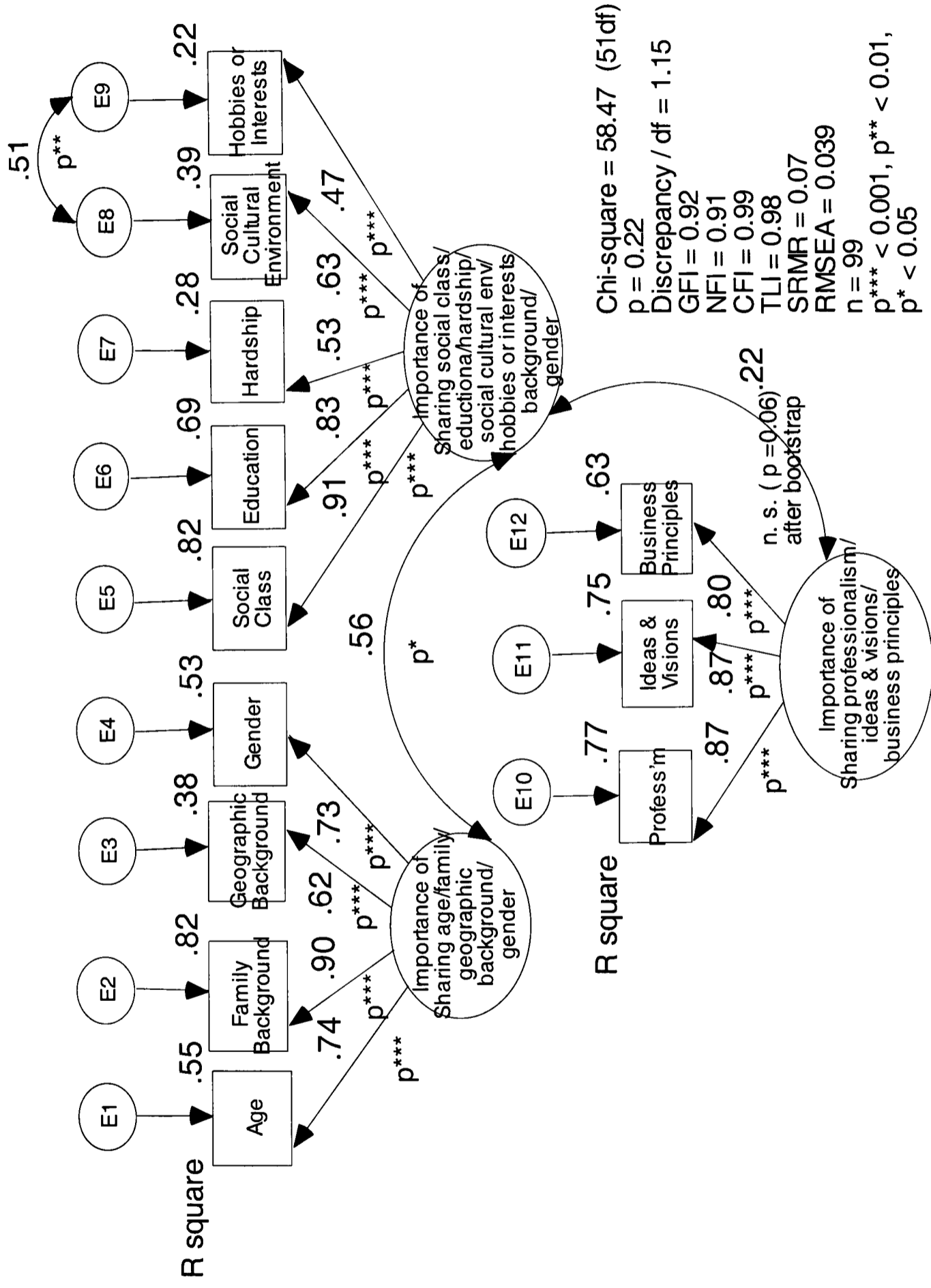
Table 5.8 Principal Components Analysis Loadings of the Third Group of the Independent Variables for Tie Type 2

Variables	Factor 1	Factor 2	Factor 3
$\alpha = 0.79$			
Importance of similar social class	<b>.65</b>	.27	.03
Importance of similar hardship	<b>.73</b>	.27	-.12
Importance of similar social cultural environment	<b>.77</b>	.17	.14
Importance of similar hobbies or interests	<b>.69</b>	.27	.25
$\alpha = 0.82$			
Importance of similar age	.29	<b>.70</b>	.16
Importance of similar family background	.29	<b>.76</b>	.07
Importance of similar geographical background	.23	<b>.67</b>	.06
Importance of same gender	.13	<b>.73</b>	.19
$\alpha = 0.89$			
Importance of similar professionalism	.05	.07	<b>.90</b>
Importance of similar ideas and visions	.19	-.0006	<b>.89</b>
Importance of similar business principles	-.00	.07	<b>.88</b>

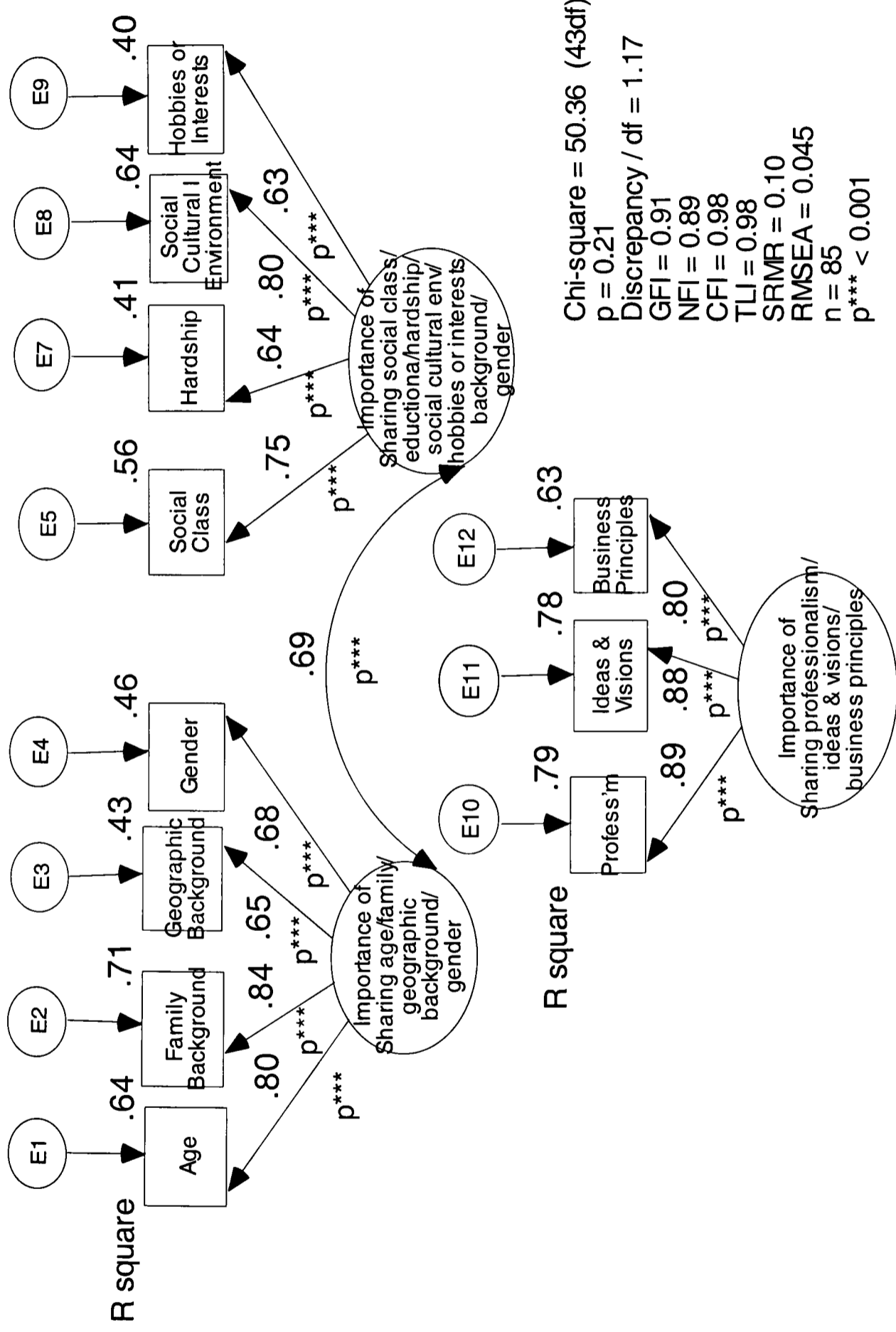
Note: Bold figures indicate primary factor loadings of an item.  $\alpha$  is Cronbach alpha reliability. Principal Component extraction and varimax rotation were performed.

## Chapter 5

The measurement models of the factor structures for Tie Type 1 data set (Figure 5.3) and Tie Type 2 data set (Figure 5.4) were derived in AMOS. The chi-square statistics and the indices are presented in Appendix B as B.10. The sample data fitted the measurement model in both data sets. Principal component extraction method in SPSS and confirmatory factor analysis in AMOS gave similar results of the factor structures.



**Figure 5.3 The Measurement Model of Importance of Shared Common Ground and Business Values in Building Trust with Strongest Business Ties with Friendship**



**Figure 5.4 The Measurement Model of Importance of Shared Common Ground and Business Values in Building Trust with Strongest Business Ties without Friendship**

### 5.2.3 Item Parcels of Hypothesised Combination of Variables

In Section 5.2.2.2, the variables of common ground and business values in each Tie Type 1 and 2 data sets were item-parceled according to the resulting factor structures. These two sets of item-parcels were data driven, and will be subjected to hypotheses testing using structural modeling in the following section. In this section, the variables of common ground and business values are item-parceled according to a priori hypotheses proposed in the preceding chapter respectively for the Tie Type 1 data set of friendship ties and the Tie Type 2 data set of non-friendship ties. Structural modeling using these two sets of item-parcels will then be hypothesis driven (referring to analytic procedure 3 outlined in Section 5.1.3). The predicted combination of the variables was:

#### A Priori Factor of Shared Common Ground

Similar education  
Similar social cultural environment  
Similar hobbies or interests

In order to explore whether the three variables were correlated and their strength of the association, 3 x 3 contingency tables for each pair of variables were formed. The chi-squared test statistic<sup>8</sup> and the contingency coefficient<sup>9</sup> were assessed. The chi-square test statistic tests the hypothesis that the row and column variables in a contingency table are independent, but does not indicate the strength of association.

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<sup>8</sup> Karl Pearson introduced the chi-squared statistic to test independence of two variables in 1900. When  $H_0$  is true,  $f_0$  and  $f_e$  tend to be close for each cell when  $f_0$  is an observed frequency in a cell of a contingency table, and  $f_e$  is an expected frequency.  $f_e$  is the count expected in a cell if the variables were independent. If  $H_0$  is false, some  $f_0$  and  $f_e$  tend not to be close, yielding large  $(f_0 - f_e)^2$  values and a large test statistic. The larger the  $\chi^2$  value where  $\chi^2 = \text{sum of } (f_0 - f_e)^2 / f_e$ , the greater the evidence is against the null hypothesis of independence (Agresti & Finlay, 1997).

<sup>9</sup> Pearson's contingency coefficient is based on  $\chi^2$ . It is  $[\chi^2 / (\chi^2 + n)]^{1/2}$  (Agresti, 1990, p.75). It is a measure of association for nominal data.

The contingency coefficient is based on chi-square. It indicates the strength and significance of the relationship between the row and column variables. Since the expected frequency counts of a few cells, particularly related to ‘don’t know’, were less than five, Agresti and Finlay’s (1997) suggest that more detailed analyses of the data should be employed. Thus, both contingency coefficients in the 3 x 3 and 2 x 2 collapsed tables, and the adjusted residuals<sup>10</sup> in the 3 x 3 tables were examined. The results are summarised below. Detailed analyses are documented in Appendix B as B.15.

### Tie Type 1 Data Set - Strongest Business Ties with Friendship

Overall, the relationship between sharing similar hobbies/interests and sharing similar education was moderate. The association between sharing similar hobbies/interests and sharing similar social cultural environment was a strong one. The relationships between the three variables are pictorially depicted in Figure 5.5 below. Thus, these three variables were item-parcelled by counting ‘yes’ responses for hypothesis-testing in the following section.

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<sup>10</sup> A drawback of  $\chi^2$  test is that it does not indicate whether all cells, or one or two cells deviate greatly from independence. Residual analysis compensated such shortcoming by calculating a standardised residual value that is like a z – score. It is  $(f_0 - f_e) / [f_e (1 - \text{marginal row proportion}) (1 - \text{marginal column proportion})]^{1/2}$ . The adjusted residue falls around a mean of 0 with a standard deviation of 1. A value exceeding 2.0 suggests evidence against independence between the row and column variable in that cell. A value exceeding 3 provides strong evidence (Agresti & Finlay, 1997).

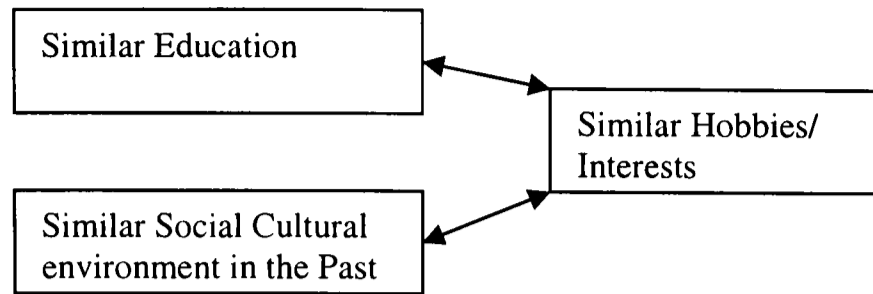


Figure 5.5 Relationships between Common Ground Items in Tie Type 1

Tie Type 2 Data Set - Strongest Business Ties without Friendship

It was found that sharing similar hobbies/interests was independent of sharing similar education. Sharing similar social cultural environment in the past was independent of sharing similar education. However, sharing similar hobbies/interests was associated with sharing similar cultural social environment. The relationships between these three variables are represented pictorially in Figure 5.6 below. Thus, only the two associated variables were item-parcelled for hypothesis-testing in the following section.

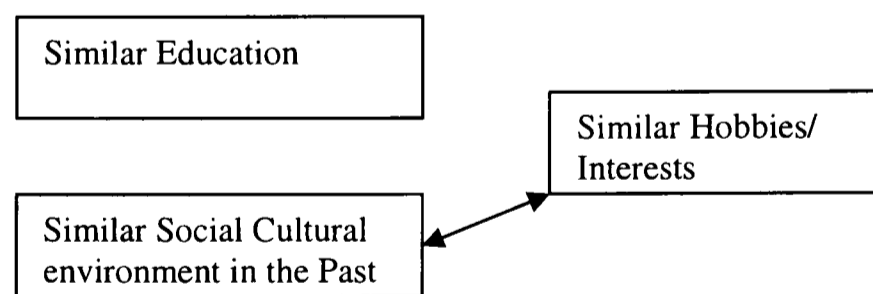


Figure 5.6 Relationships between Common Ground Items in Tie Type 2

### 5.2.4 Empirical Testing of Hypothesised Models

Having obtained the estimated factor structures and the item parcels, we can proceed to examine the hypotheses. The procedures were firstly to specify respectively the hypothesised structural models for Tie Type 1 and 2 data sets, and secondly test for data fit to the models by using the ML estimation method and applying the bootstrap procedure in AMOS.

#### **The Hypothesised Model for Tie Type 1**

Figure 5.7 depicts the hypothesised model of interpersonal trust between business executives and their strongest business ties with friendship. The hypothesised model consisted of an a priori item-parcel of sharing similar education, social cultural environment in the past and hobbies/interests, and a data-driven item-parcel of sharing similar ideas/vision and business principles. The Figure shows testing of hypotheses H1, H3, H5, H7, H8, H9, and exploratory testing of Importance of Business Values on Trust on the relevant paths.

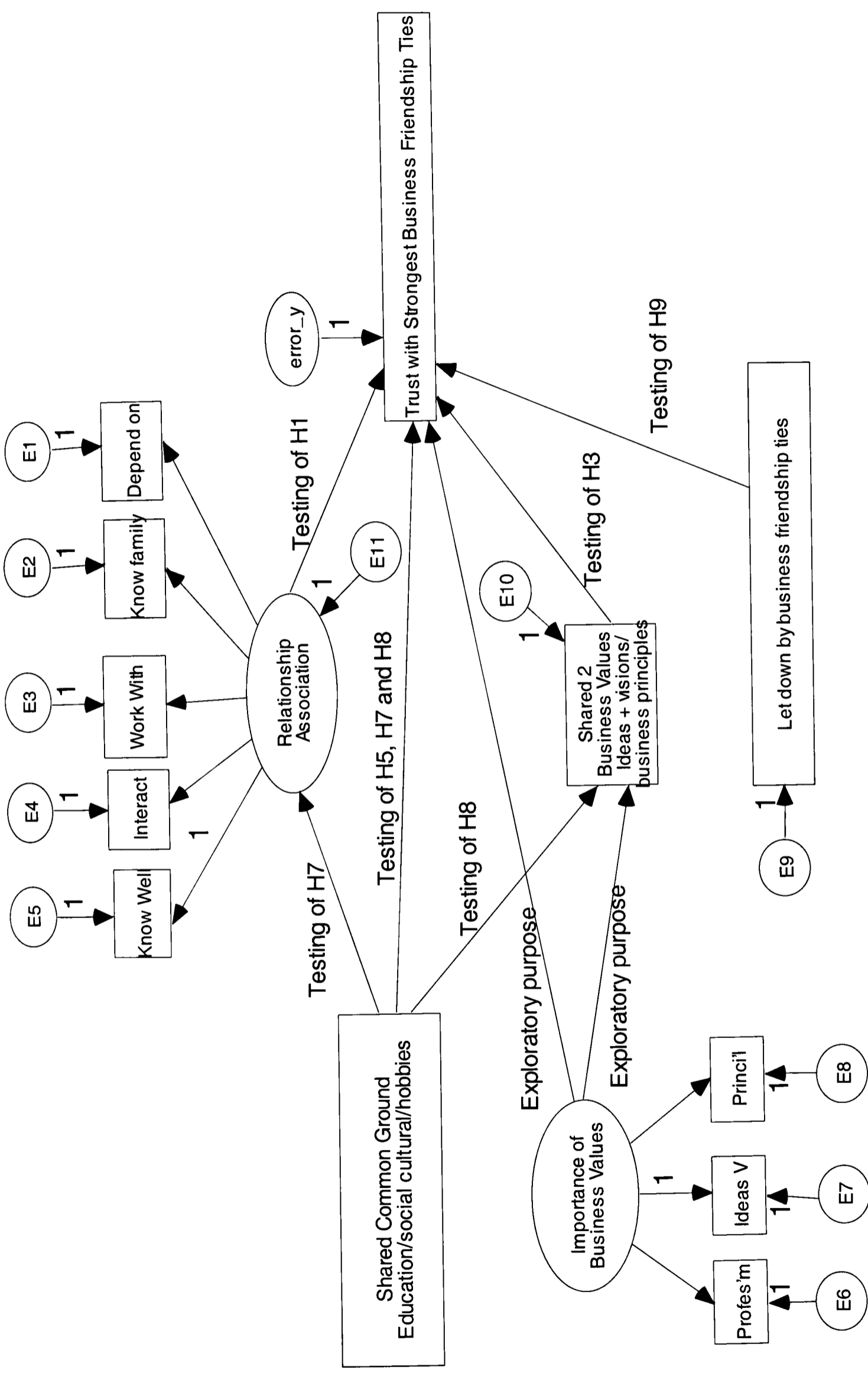
In summary, the hypothesised model examined whether the constructs of Relationship Association, sharing business values and how often business executives have been let down by their ties were significant predictors of trust in strongest business friendship ties. Sharing the hypothesised common ground would be a direct and an indirect predictor of trust, and mediated by Relationship Association. Finally, importance of business values would be a direct or an indirect predictor of trust.

### **The Hypothesised Models for Tie Type 2**

Figure 5.8 displays the hypothesised model of interpersonal trust between business executives and their strongest business ties without friendship. The hypothesised model consisted of a data-driven item-parcel of sharing similar ideas/vision and business principles, and non-significant paths from the a priori item-parcel of sharing similar social cultural and hobbies/interests to Relationship Association and Shared 2 Business Values. An alternative representation of the hypothesised model was to delete the a priori item-parcel on the path diagram (see Figure 5.9), which was more parsimonious.

Similarly, the hypothesised model in Figure 5.9 examined whether Relationship Association, sharing similar business values and how often business executives have been let down by their ties also directly predicted trust in strongest business ties without friendship. The direct or indirect influence of importance of business values on trust was also explored.

In comparing between the two hypothesised models in Figure 5.7 (with friendship) and Figure 5.9 (without friendship), the direct predictions of Relationship Association, business values and how often executives have been let down by their ties on levels of trust were identical. The direct or indirect prediction of importance of business values on trust for each tie type was also the same. However, an additional direct and indirect prediction of the a priori item-parcel of sharing similar education, social cultural environment in the past and hobbies/interests existed in Tie Type 1 model (Figure 5.7), but not in Tie Type 2 model (Figure 5.9).



**Figure 5.7 The Hypothesised Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties with Friendship**

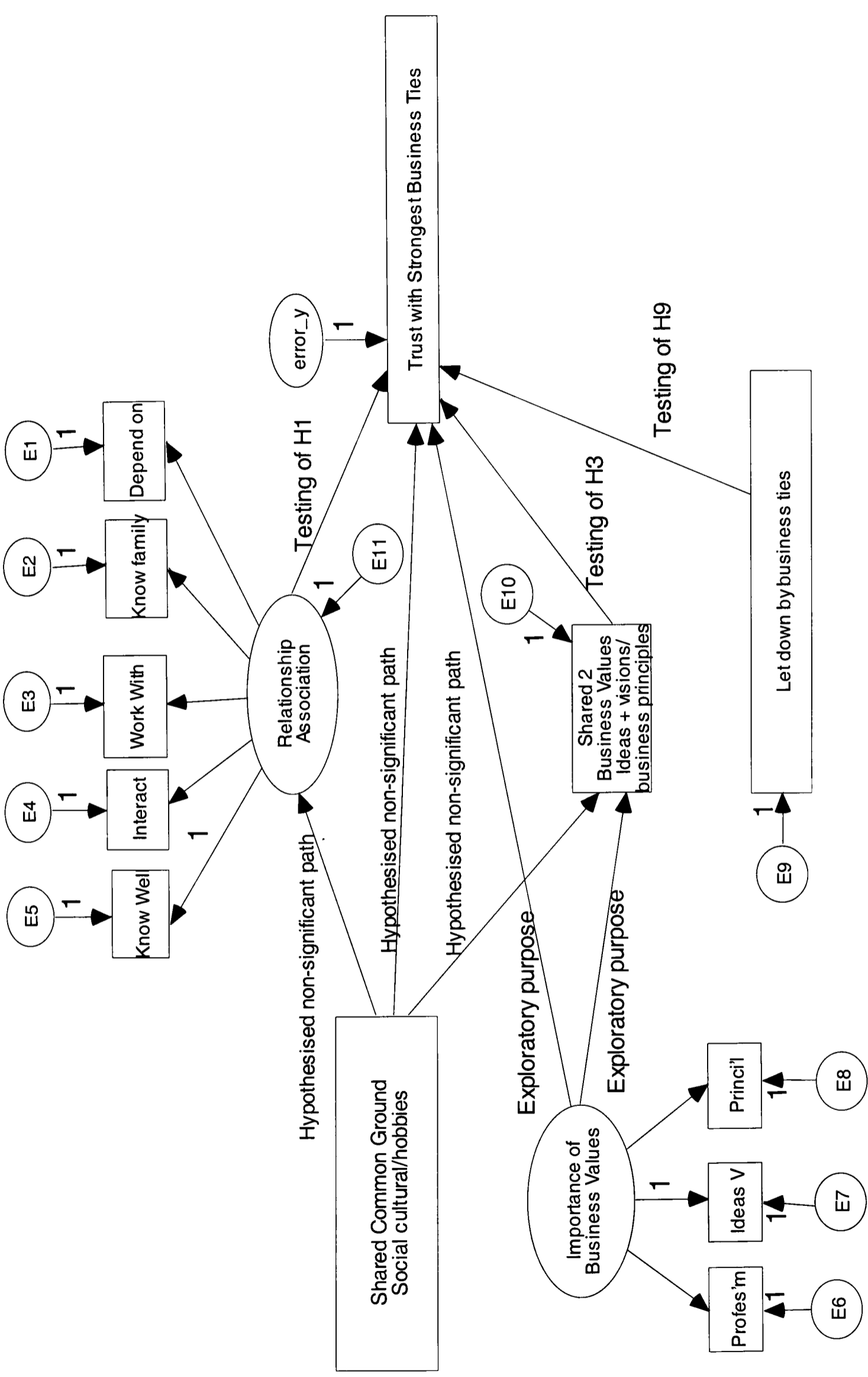
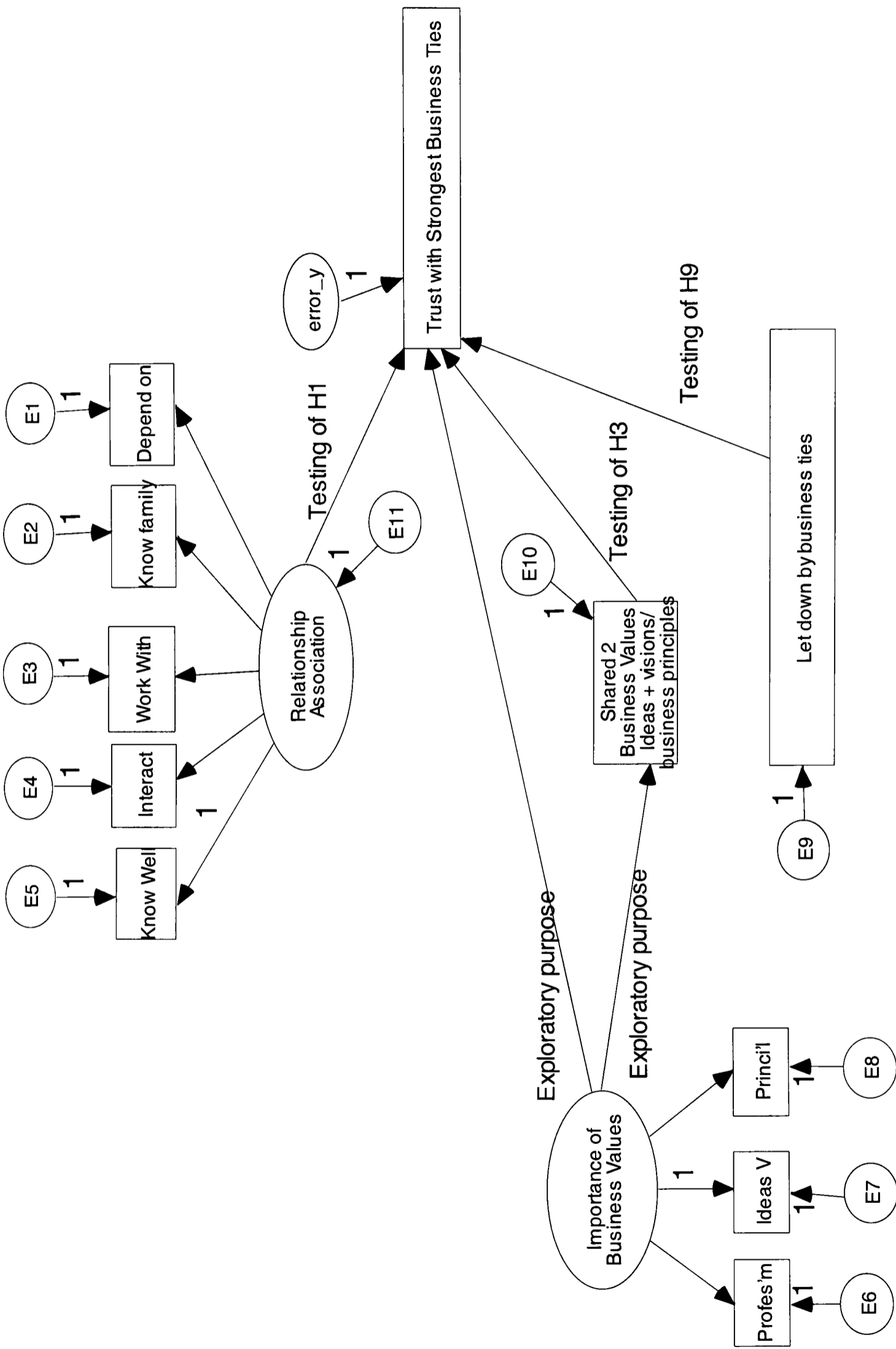


Figure 5.8 A Hypothesised Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties without Friendship



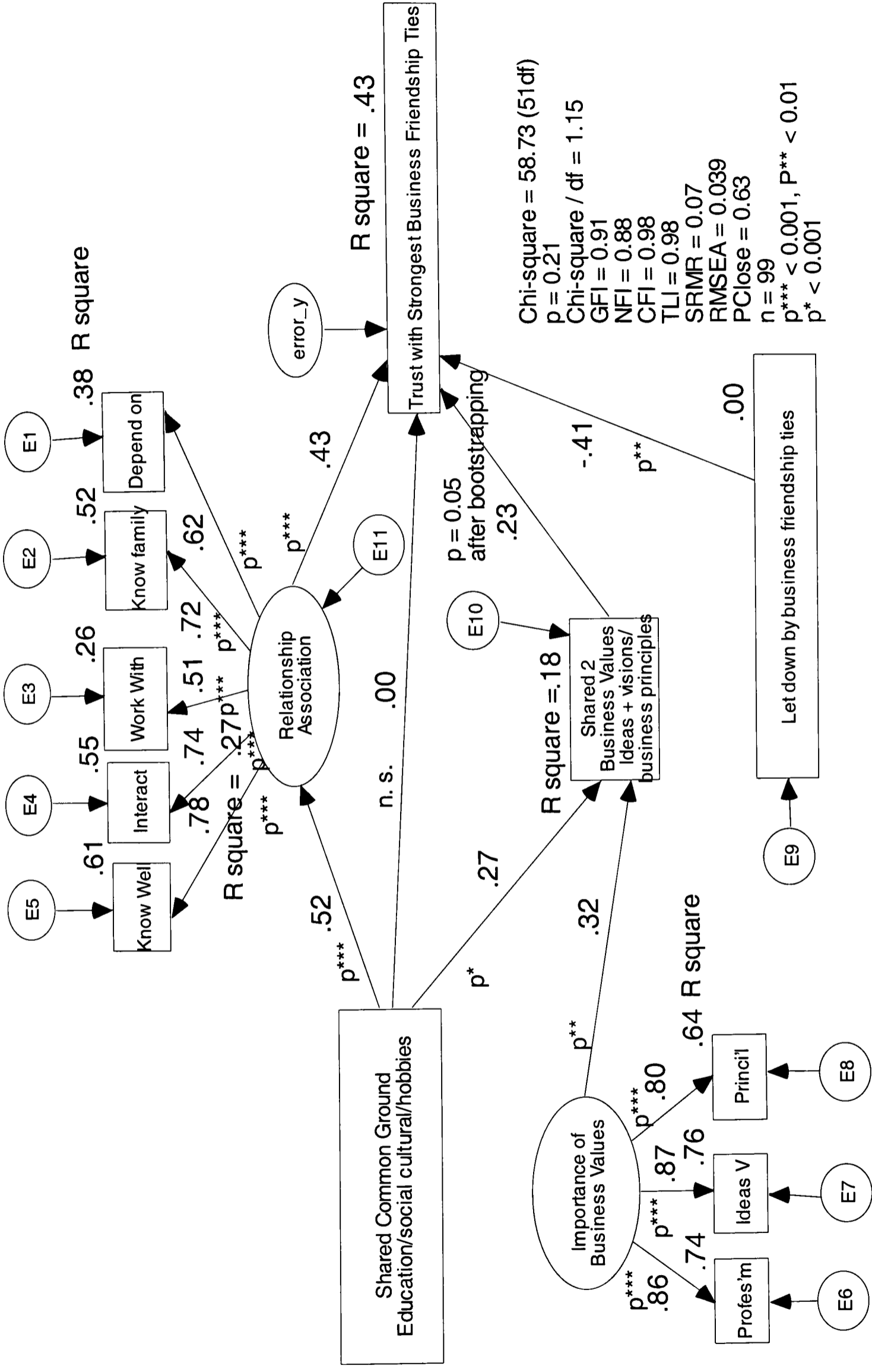
**Figure 5.9 An Alternative Representation of the Hypothesised Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties without Friendship**

### **Evaluation of the Hypothesised Model in Figure 5.7 – Tie Type 1**

Figure 5.10 shows the estimated model of interpersonal trust between business executives and their strongest ties with friendship using a hypothesis driven item-parcel of sharing similar education, social cultural environment in the past and hobbies/interests. The model had an adequate fit to the sample data.

In addition to this estimated model, I also examined an estimated model using a data driven item-parcel of sharing similar family background, religion, education, hardship in the past and hobbies/interests, while keeping all other variables unchanged. The only difference between these two estimated models was whether the item-parcel of sharing common ground was hypothesis or data driven. In general, the results of these two models were very similar. By inspecting the chi-square statistics, the fit indices and RMSEA, the hypothesis driven model in Figure 5.10 fitted the sample data slightly better. Since the sample size was small, it was concluded that the power of the test might not be sensitive enough to show differences between the two estimated models. This will be discussed further at the end of the chapter.

The results of the hypothesis driven model are presented below, and the results of the data driven model are documented in Appendix B as Figure B.28.



**Figure 5.10 An Estimated Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties with Friendship Driven Item-Parcel of Common Ground**

The estimated model in Figure 5.10 has a non-significant  $\chi^2 (51) = 58.73, p = 0.21, \chi^2 /d.f. = 1.15$ , Goodness of Fit Index (GFI) = 0.91, Normed Fit Index (NFI) = 0.88, Comparative Fit Index (CFI) = 0.98, Tucker-Lewis Index (TLI) = 0.98, root mean square error of approximation (RMSEA) = 0.039 (the lower bound was 0.000 and the upper bound was 0.079 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.07. The relevant AMOS outputs are presented in Appendix B as B.29 and B.30.

Mardia's (1970) coefficient of multivariate kurtosis of the estimated model was 54.50 with a critical ratio of 14.80. Before item-parcelling of the two sets of variables, Mardia's (1970) coefficient was 68.06 with a critical ratio of 14.99 (see Appendix B.31). This was obtained by running the estimated model with the individual categorical variables forming the relevant factors. The extent of multivariate non-normality was reduced by 19.9% by parcelling the items. It was concluded that the data set after item-parcelling had slight multivariately non-normality mainly caused by four multivariate outliers and to some extent by the item-parcel of sharing business two values.

The bootstrap procedure changed one significant path from  $p < 0.01$  to be bordering on significance at  $p = 0.05$  in the model fit. The item-parcel of sharing ideas/visions and business principles just significantly influenced the level of trust with strongest business friendship ties at  $p = 0.05$ . However, when the estimated model was further refined by deleting the non-significant path (see n. s. in Figure 5.10), this significant path changed from  $p = 0.05$  to  $p = 0.04$ . Hypothesis three (H3) predicted that sharing perceived similarity in business values would be a significant predictor of trust

between business executives and their business strongest ties with friendship. Thus, this hypothesis was confirmed for Tie Type 1 data set.

Further, the estimated model shows that the construct of Relationship Association significantly ( $p < 0.001$ ) influenced the level of trust with these ties, and was a complete<sup>11</sup> mediator of the item-parcel of sharing similar education, cultural social environment in the past and hobbies/interests. The item-parcel only had indirect effect ( $p < 0.001$ ) on the level of trust with their strongest business friendship ties through the complete mediator of Relationship Association. Hence, Relationship Association was a significant predictor of trust between business executives and their strongest ties with friendship ( $P < 0.001$ ) supporting hypothesis one (H1). Common ground, such as interests and hobbies, education, and social environment at work, school or university was not a reliable direct predictor of trust between business executives and their strongest ties with friendship, failing to support hypothesis 5 (H5). However, the effect of common ground on trust level with the strongest business friendship ties was indirect and mediated by the construct of Relationship Association, supporting hypothesis seven (H7).

The rejection of H5 means that the item-parcel of sharing similar education, social cultural environment and hobbies/interests did not directly predict the level of trust. It was also found that the item-parcel had a second indirect effect on the level of trust

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<sup>11</sup> A complete mediator differs from a partial mediator. In a complete mediation, the item-parcel in the present study does not have any direct effect or influence on the level of trust with the ties. Any influence on trust will be indirect through the complete mediator, which is Relationship Association. However, in a partial mediation, the item-parcel exerts some influence on the level of trust, giving some direct effect on trust as well as indirectly through the partial mediator.

through a second complete mediator, which was the item-parcel of sharing ideals/visions and business principles, confirming hypothesis eight (H8).

Moreover, hypothesis nine (H9) predicted that being let down by strongest friendship ties would negatively influence trust. This hypothesis was confirmed ( $p < 0.01$ ).

With an exploratory objective, it was found that the factor of Importance of Business Values had an indirect influence on the level of trust through the complete mediator of the item-parcel of sharing ideas/visions and business principles. Thus, valuing the sharing of professionalism, ideas/visions and business principles affected the actual sharing of ideas/vision and business principles, and that indirectly had some influence on the level of trust.

By inspecting the frequency chart of the item-parcel of sharing education, social cultural environment in the past and hobbies/interests, it was found that 26.3% of the 99 respondents shared all three characteristics, and 34.3% of the respondents shared two characteristics. The frequency table and chart are shown in Appendix as B.36.

The present model explained 43% of the variance associated with “my level of trust with my strongest business ties with friendship”. The construct of Relationship Association and how often business executives have been let down were the major influence on the level of trust.

Further, 61% of the variance in the item “how well business executives know their strongest business friendship ties” was accounted for by the latent variable of

Relationship Association. Similarly, 55% of the variance associated with “how often they interact with the ties outside office hour”, and 52% of the variance associated with “how well they know their ties’ close family members” were accounted for by the same construct. Finally, 38% of the variance associated with “the extent to which they both depend on this relationship in utilising each other’s resources”, and 26% of the variance associated with “how much they have worked with the ties” were accounted for by the construct of Relationship Association.

**Evaluation of the Hypothesised Model in Figure 5.8 and an Alternative Hypothesised Model in Figure 5.9 – Tie Type 2**

The hypothesised model in Figure 5.8 and the more parsimonious hypothesised model in Figure 5.9 were evaluated with Tie Type 2 data set. It was found that the estimated model based on the more parsimonious hypothesised model using a data driven item-parcel of sharing common native tongue, cultural identity, professionalism and business principles gave an adequate model fit with the data. Figure 5.11 shows the estimated model of interpersonal trust between business executives and their strongest business ties without friendship. This data driven model explained 34% of the variance.

In addition to this estimated model, I also examined an estimated model using a hypothesis driven item-parcel of sharing business values while keeping all other variables unchanged. It was found that sharing business values did not predict trust in strongest business ties in the hypothesis driven model after bootstrapping, and the variance explained by the hypothesis driven model was 20%. This R square was 14% less than that of the data driven model. This hypothesis driven model was outperformed by the data driven model because of the extra variance explained by the item-parcel of sharing common native tongue, cultural identity, and the two business values.

Thus, the results of the data driven model in Figure 5.11 are presented below, and the results of the hypothesis driven model are documented in Appendix B as Figure B.32.

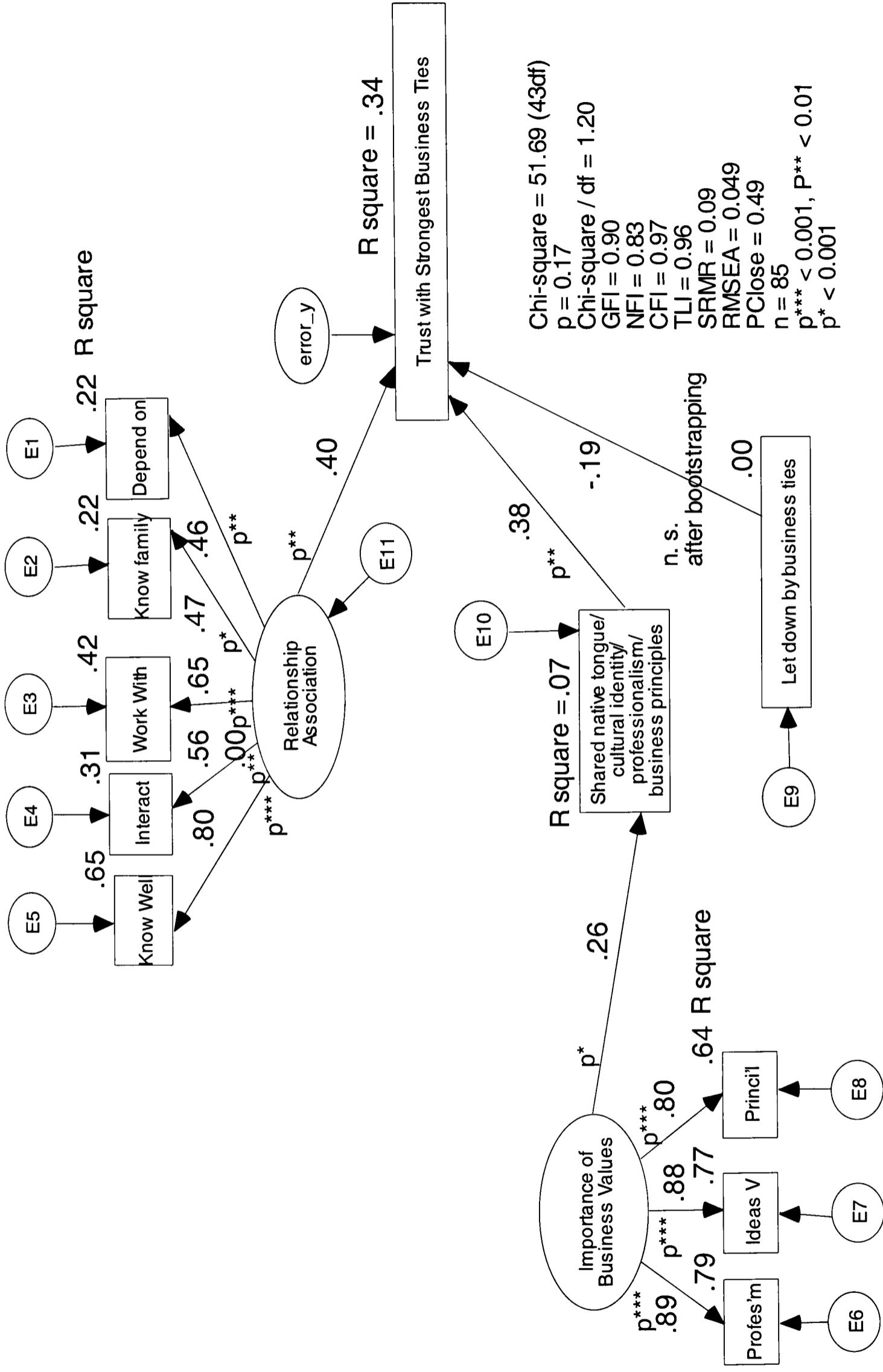


Figure 5.11 An Estimated Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties without Friendship with a Data Driven Item-Parcel

The estimated model in Figure 5.11 had a non-significant  $\chi^2 (43) = 51.69, p = 0.17, \chi^2 /d.f. = 1.20$ , Goodness of Fit Index (GFI) = 0.90, Normed Fit Index (NFI) = 0.83, Comparative Fit Index (CFI) = 0.97, Tucker-Lewis Index (TLI) = 0.96, root mean square error of approximation (RMSEA) = 0.049 (the lower bound was 0.000 and the upper bound was 0.093 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.09. The relevant AMOS outputs are presented in Appendix B as B.33 and B.34.

Mardia's (1970) coefficient of multivariate kurtosis of the model of the final estimated model was 31.51 with a critical ratio of 8.59. Before item-parcelling common native tongue, cultural identity, professionalism and business principles, Mardia's (1970) coefficient was 72.93 with a critical ratio of 15.89 (see Appendix B.35). This was obtained by running the estimated model with the individual categorical variables forming the relevant factors. The extent of multivariate non-normality was reduced by 57% by parcelling the items. It was concluded that the data set was very slightly multivariately non-normal mainly because of one multivariate outlier and also to some extent because of the item-parcel of the four variables.

The bootstrap procedure changed one path from significant to non-significant in the model fit. The variable of "let down by business ties" non-significantly influenced the level of trust with these ties ( $p = 0.04$  before bootstrapping). Thus, hypothesis nine (H9) for tie type 2 was not supported.

Model fitting using the data driven item parcel showed that hypothesis three (H3) was not supported. That is sharing of business values did not predict trust in strongest business ties without friendship, but sharing of common native tongue, cultural identity and business values was found to influence the level of trust in them:

Further, hypothesis one (H1) was supported: Relationship Association was a significant predictor of trust between business executives and their strongest ties without friendship.

Similar to the estimated model in Figure 5.10 for Tie Type 1 data set, the factor of Importance of Business Values had an indirect influence on the level of trust through the complete mediator of the item-parcel of sharing common native tongue, cultural identity, and business values.

Sharing similar social cultural environment in the past and hobbies/interests did not influence Relationship Association. Neither did it have a significant effect on the level of trust in the strongest business ties when there was no friendship in the strongest business relationship. Implications of the finding in contrast with that in Tie Type 1 data set will be discussed later.

By inspecting the frequency distribution of the item-parcel of sharing common native tongue, cultural identity, professionalism and business principles (see Appendix B.37), 76.5% of the respondents shared all four characteristics, and 12.9% shared three of the four characteristics with their strongest business ties. Since the

distribution was skewed, the results must be interpreted with caution, and will be discussed later in the chapter.

The present estimated model explained 34% of the variance associated with “my level of trust with my strongest business ties without friendship”. The construct of Relationship Association and the item-parcel of the four variables were the major influence on the level of trust.

65% of the variance in the item “how well business executives know their strongest business ties” was accounted for by the construct of Relationship Association.

Similarly, 42% of the variance associated with “how much they have worked with the ties”, 31% of the variance associated with “how often they interact with the ties outside office hour” were accounted for by the construct. Finally, 22% of the variance associated with “how well they know their ties’ close family members”, and 22% of the variance associated with “the extent to which they both depend on this relationship in utilising each other’s resources” were accounted for by the construct of Relationship Association.

In Appendix B, a summary table of the confirmed and unconfirmed hypotheses in the hypothesis driven results and data driven results in both data sets is presented as B.38.

## **Correlation Coefficients of the variables and the item-parcels in Tie Type 1 and 2**

### **Data Sets**

Table 5.9 and Table 5.10 respectively display all the correlation coefficients between the measured variables for Tie Type 1 and 2 data sets. They were utilised in the analyses of structural equation modelling of the various models earlier in this section.

Discussion of the results is presented in the following section.

Table 5.9 Correlation Matrix of the Measured Variables in Tie Type I Data set (N = 99)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Know each ST	.529***											
2. Interact with each ST	.445***	.315**										
3. Worked with each ST	.629***	.574***	.325**									
4. Know each ST's family	.426***	.502***	.399***	.395***								
5. Depend on each ST's resources	-.141	.013	.071	-.136	-.079							
6. Let down by each ST	.386***	.456***	.208*	.358***	.314**	-.050						
7. Share education, cultural social and hobbies	.313**	.459***	.232*	.376***	.256*	.007	.741***					
8. Share similar family b, religion, education, hardship and hobbies	.228*	.219*	-.051	.121	.163	-.151	.289**	.221*				
9. Share similar ideas/visions + business principles	-.038	.000	-.021	.020	-.017	-.054	.024	-.014	.229*			
10. Importance of similar professionalism	.075	.041	.056	.031	.149	-.039	.065	.040	.331**	.755***		
11. Importance of similar ideas/ visions	.054	.126	.033	.083	.167	-.042	.115	.015	.305**	.699***	.694***	
12. Importance of similar business principles	.475***	.346***	.192	.252*	.419***	-.469***	.297**	.230*	.369***	.109	.204*	.172

\* $P < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (2-tailed).

Table 5.10 Correlation Matrix of the Measured Variables in Tie Type 2 Data Set (N = 85)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Know each ST	.427***												
2. Interact with each ST	.574***	.231*											
3. Worked with each ST	.360**	.423***	.289**										
4. Know each ST's family	.280**	.424***	.306**	.294**									
5. Depend on each ST's resources	.076	.017	-.007	-.032	.076								
6. Let down by each ST	-.112	.227*	-.099	.223*	.093	.010							
7. Share similar social cultural and hobbies/ interests	-.185	.042	-.091	-.200	.004	-.162	.222*						
8. Share similar ideas/visions, business principles	-.038	.185	-.095	.033	.127	-.082	.281**	.703***					
9. Share similar education, hardship, ideas/visions	-.263*	-.130	-.224*	-.175	-.107	-.189	.141	.575***	.406***				
10. Share similar native tongue, cultural id, professionalism and business principles	.095	.002	.020	-.158	-.024	-.088	-.018	.266*	.284**	.225*			
11. Importance of similar professionalism	.058	.016	-.025	-.151	.027	-.088	.084	.343**	.277**	.183	.781***		
12. Importance of similar ideas and visions	.073	.104	-.086	-.095	.058	-.107	.076	.356**	.299**	.301**	.706***	.702***	
13. Importance of similar business principles	.261*	.170	.170	-.037	.183	-.244*	.045	.209	.147	.320**	.118	.114	.202
14. Trust level in each ST													

\* $P < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (2-tailed).

### 5.3 Discussion

Thus far, this chapter has examined nine hypotheses related to predictors of trust between UK business executives and their strongest business ties with and without friendship. As predicted, Relationship Association was a significant predictor of business executives' trust in their strongest business ties with or without friendship. When there was friendship in the strongest business relationships, Relationship Association was stronger, and trust was higher than for strongest business ties without friendship. Measures of both Relationship Association and sharing perceived similar business values fully mediated the effect of common ground on trust level in strongest business friendship ties. Thus, common ground was not found to directly influence trust in the friendship ties. However, sharing perceived similarity in business values was found to be a marginally significant predictor of trust in these friendship ties at ( $p = 0.05$ ) after bootstrapping. The prediction that perceived similarity in business values would influence trust in strongest business ties without friendship was not confirmed. Therefore, the prediction that perceived similarity in business values by business executives would be stronger in their friendship ties was not confirmed either. Further, how often business executives had been let down by their strongest business ties was a significant predictor of trust when there was friendship. In the absence of friendship, being let down was not confirmed as a significant predictor of trust.

This section will begin with discussions of the findings of the antecedents of trust with and without friendship, the unconfirmed prediction of let down, and importance of sharing business values. The limitations of using the small sample size and item-parcelling on the interpretation of the results are then discussed. The theoretical

implications for the measures of tie strength, business friendship, common ground, the operationalisation of duration of relationship with trust, trust as an antecedent, and power imbalance will be presented. Based on the results, the practical implications will be highlighted. Future research directions will be discussed in the final chapter.

### **Discussion of Main Results**

The present study explored the antecedents of interpersonal trust of business executives in their strongest business ties with or without friendship. In particular, this thesis questioned whether or not sharing perceived similarity in business values, common ground of education, social cultural environment in the past, hobbies/interests, and Relationship Association as a measure of relationship strength in the context of business relationships would have a direct influence on business executives' trust in their strongest business ties with and without friendship. Whether Relationship Association and sharing business values acted as mediating variables for sharing common ground was also examined. Importance scores of common ground and business values were explored in order to understand any direct or indirect influence on trust.

### Trust in Strongest Business Friendship Ties

We re-examine the above questions in the light of the results. It was found that Relationship Association, how often business executives have been let down, and the sharing of perceived similarity in business values of ideas/visions and business principles were three direct predictors of trust in the strongest business ties with friendship. Sharing common native tongue and cultural identity did not have direct or indirect effects on the level of trust. However, sharing a combination of common

ground in similar education, socio-cultural environment in the past and hobbies/interests indirectly influenced the level of trust through two complete mediators of Relationship Association and similar business values. Hence, the more common ground shared between a dyad, the stronger the business relationship between them was found to be, and therefore the stronger the level of trust in the strongest business friendship ties. The findings suggest that sharing similar activities and some common experiences in the past, such as education, hardship, work/college enhances the relationship strength, and increases perceived similarity in ideas/visions and business principles, as well as the chances of developing and maintaining friendship. Not only do these findings contribute to the understanding of attitude and activity similarity in friendship, but also they suggest mediating roles for relationship strength and similarity in business values in producing trust. However, since the effect of similarity in ideas/visions and business principles on trust was bordering on significance at  $p = 0.05$  after bootstrapping, we cannot conclude that the more similar business values are shared, the stronger will be the level of trust in the ties. Nevertheless, the results showed a specific relationship between business value and common ground similarity and dyadic trust in strongest business friendship ties that past research studies have not touched on.

### Trust in Strongest Business Ties without Friendship

However, when there was no friendship in the strongest business relationships, the findings differed. In addition to Relationship Association, a combination of sharing common native tongue, cultural identity, similar professionalism and business principles directly predicted trust in strongest business ties without friendship. Having been let down by the ties did not have any effect on the level of trust. Neither did

common ground have any indirect effect on trust. These findings suggest that dyads in strongest business relationships share less in common than relationships that involve friendships, confirming the prediction. Although the results reveal that dyadic trust in strongest business ties is formed on the basis of similar language, cultural background and business values, we cannot draw the conclusion that business executives trusted those who were also British, spoke the same language, and shared the same values in professionalism and business principles due to the highly skewed frequency distribution of the item parcel of the four measures. This limitation will be addressed later in the chapter. Nevertheless, the present result shows that sharing certain combination of common ground and business values directly predicted trust in strongest ties without friendship.

### Mediation of Effects of Relationship Association and Perceived Value Similarity

There are two complete mediators summarised earlier in the text. Both Relationship Association and perceived similar business values mediated the effect of common ground on trust in strongest business ties with friendship. Although the aim of the present study was not to predict friendship, or friendship formation, the mediating results suggest that sharing similar hobbies, activities, education and work/college in the past only exert secondary or indirect influence on the level of trust in strongest business friendship relationships. In a sense, people who share these common characteristics would likely meet and interact more often in their work or college environment than those who do not. As we would expect, those who have a higher degree of overlap of business values would likely build higher trust. However, this direct effect was inconclusive due to the borderline significant effect of business values on trust. Nevertheless, business friendship might be formed as a result of

interaction outside office hours, which in turn increases how well they get to know each other. As they interact more as business friends, the ego would possibly get to know his/her ties' close family members more. This may explain why relationship strength contributes directly to increases in trust.

### Unconfirmed Prediction of Let Down and Importance of Sharing Business Values

The result of the estimated model in Figure 5.11 revealed that how often business executives have been let down by strongest business ties did not have any influence on the level of trust in them after the bootstrapping procedure was applied. Although the resulting structural model was not the final one as it will be pointed out later under limitations, this thesis proposed an explanation. How often business executives have been let down was defined in the questionnaire in terms of failing to keep promises or exaggerating what can be delivered. The fact that trust in strongest business ties was significantly lower than trust in strongest business friendship ties may suggest that business executives are conservative in their allocation of trust towards strongest ties without friendship. If business executives do not trust someone, they cannot be let down. It is possible that the more business executives trusted their strongest business ties, the higher their expectations, and the more chance of being let down. Perhaps, their desire not to be let down counteracted the direct effect on trust as predicted by the thesis. However, the results of the first study in Part A showed that expectation of reliability was one of the fundamental expectations that influenced trust in strong ties and weak ties. We would expect that how often business executives have been let down would affect their trust in strongest business ties. This finding may further suggest that expectation of strongest business ties may differ from that of strongest

business friendship ties. This will be further discussed in the conclusions of the thesis in Chapter 8.

In relationships with strongest business ties without friendship, it was found that the importance of sharing similar ideas/visions, business principles and professionalism had an indirect influence on the level of trust through the complete mediator of the item-parcel of sharing common native tongue, cultural identity and business values. Because of the issue of item-parcelling, it is inappropriate to draw definitive conclusions concerning the implication of the result. However, we would expect that importance of sharing business values should influence the level of perceived similarity in business values. The evidence of such an influence on perceived similarity was found for ties with friendship, but not for ties without friendship in the present study. However, for the former, the borderline significant effect of the business value similarity item-parcel on trust after bootstrapping suggests that the indirect influence of importance of sharing business values on trust levels was inconclusive. This thesis suggests that a future research study can verify these unconfirmed relationships by soliciting responses of the business values items on a Likert scale, and rephrasing the items, such as “to what extent do you share similar professionalism with Person A?”.

### **Limitations**

The limitation of using a small sample raised in the first study in the discussion section of Chapter 3 (Section 3.3) also exists in the present study. In particular, the results showed that the power of the model fit test was limited and unable to differentiate between the a priori model and the data driven model. A failure to reject

the models may represent a Type II error. Thus, the hypothesised driven and data driven models might not be the final models. However, both models have shown that sharing certain combination of common ground indirectly influenced the level of trust between business executive and their strongest ties with friendship.

The lack of power to differentiate was attributable to the small sample size, the measures of characteristics and business values being categorical, and the Cronbach alpha reliability of the item-parcel of sharing ideas/visions and business principles being less than the acceptable level of 0.6. This thesis suggests that future research design should incorporate a larger sample size of at least 200, and re-phrase the items as “to what extent do you share similar hobbies or interests with Person A?” on a Likert scale of 1 to 9 (1 = not at all ... 9 = the greatest extent). The limitation concerning sample size will be further addressed in the final chapter of the thesis.

### **Theoretical Implications**

This section addresses four areas of theoretical implications for the measures of business tie strength, business friendship, operationalisation of duration of relationship with trust, common ground, trust as an antecedent, and power imbalance.

#### Business Tie Strength

The study revealed that a construct combining how well business executive knew their strongest ties, how often they interacted with them outside the office hours, how well they knew their strong ties' close family members, the extent to which each other depended on the relationship in utilising each other's network resources, and how much business executives have worked with the ties was a significant predictor of

relationship strength with the strongest ties with or without friendship. This combination differs from Granovetter's (1973) combination of duration of a relationship, emotional intensity, mutual confiding, and the reciprocal services characterising the tie. The present study adds extra dimensions to the measures of tie strength in order to fit the business context. In a sense, the present construct of Relationship Association is a measure of business tie strength rather than social tie strength. This has theoretical implication for the measure of tie strength such that it should be context sensitive.

### Business Friendship

Sharing business values was not significantly higher between business executives and their strongest business friendship ties than the relationship without friendship. Perhaps, friendship in business relationships does not enhance sharing business values, or vice versa. Moreover, towards the end of Section 5.2.1, this thesis questioned whether strongest business friendship ties were different from best/close social friendship ties with whom interaction outside office hours are expected to be higher than average. Beatty et al. (1996, p. 235) noted that "strong sales associate-customer friendships were common, although most were considered 'business friendships', not extending beyond the work place". Having a friendship-type relationship may be used as a strategy to make the business tie relax and open up in order to build a stronger and longer-term relationship (Beatty et al., 1996). This thesis has argued that the strongest business friendship ties involved a kind of friendship that is distinct from social friendship. It follows that the content of business friendship may differ from social friendship that does not overlap with the business sphere. In this sense, this has theoretical implications for the measure of business tie strength with friendship. First,

considering Granovetter's (1973) measure of (social) tie strength, the measure of mutual confiding was not included in the present study. Neither was self-disclosure measured. This is regarded as one of the important variables measuring friendship formation (Fehr, 2000). Moreover, depth of matters being confided with and the degree of keeping them in confidence will be expected to differ between business friendship and social friendship. Future research addressing differences between business friendship and social friendship will be further discussed in the final chapter of the thesis.

Second, behaviours of self-disclosure and mutual confiding will involve affective aspects of relationships, whether falling within business or social spheres. In close personal relationships, Johnson-George and Swap (1982) identified two separate dimensions labelled as "reliableness" and "emotional trust". Rempel et al. (1985) similarly distinguished between "dependability" and "faith" as unique forms of trust. Since the construct of faith correlated strongly with love and happiness in the Rubin's (1973) Liking and Love Scales, it may be seen to measure feelings of emotional security in close relationships. In sociology, Lewis and Weigert (1985) distinguished cognitive and emotional dimensions of trust based on the work of Luhmann (1979) and Barber (1983). These researchers constructed two bases of trust: "cognition-based trust", and "affect-based trust". For the former, trust is based on a cognitive process in that "we choose whom we will trust in which respects and under which circumstances, and we base the choice on what we take to be "good reasons", constituting evidence of trustworthiness" (Lewis & Weigert, 1985, p. 970). However, affect-based trust concerns emotional bonds between individuals, such as friendship and love (Lewis & Weigert, 1985). The present discussion focuses on affect-based trust (cognition-based

trust was partly explored in the first study of the thesis, i.e. business executives trusted those whom they perceived as fulfilling their expectations of honesty, reliability and discretion).

For the present study, we would expect that the affective nature of business relationships would involve dimensions such as degrees of self-closure, mutual confiding, and closeness. This thesis suggests that a new construct of “*Affective Association*” should tap into the emotional content of business relationships in future research, while keeping the construct of Relationships Association as a measure of tie strength.

### Duration of Relationship

The present study showed that duration of relationship was not part of the construct of Relationship Association, and thus had no relationship with trust in strongest business relationships. Similarly, a study of mentoring relationships between management supervisors and employee subordinates by Miller (1996) found that length of relationship had no significant effect on respondents’ perception of trust. The respondents were both supervisors and subordinates. Further, two other studies by Lagace<sup>12</sup> et al. (1991) and Bejou<sup>13</sup> et al. (1996) supported the findings that relationship duration did not have a significant impact on the level of customers’ trust in salespersons. However, intimacy was found to have a positive impact on trust in a study of professional business-to-consumer relationships by Hoffman (2002). As egos and alters in strongest business relationships get to know each other over the years,

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<sup>12</sup> Lagace et al. (1991) studied the relevance of ethical salesperson behaviour to relationship quality between the physician and the salesperson in the pharmaceutical industry.

we would expect that egos gain more knowledge of their strongest ties through self-disclosure, mutual confiding, and intimacy would develop. In turn, egos would instill more confidence in their trustworthiness. However, a relevant question is whether relationship duration strengthens intimacy that in turn increases trust, or influences confidence in judgement of trustworthiness regardless of intimacy. In other words, do we expect that egos trust alters because of intimacy developed over the years, or because of increasing confidence in egos' knowledge of alters' trustworthiness through knowing each other over the years, whether or not egos feel intimate with them? In order to explore these questions, a new question should be added to the construct of Relationship Association: "how confident are you in person A's trustworthiness?" and perform a factor analysis. The construct of Affective Association proposed earlier in the text is equivalent to the measure of intimacy. Future study should investigate whether Affective Association would also have a direct effect on trust in strongest business relationships, in addition to the existing direct effect of Relationship Association. If there were a new direct effect, a comparison between the two direct effects would shed light on the question.

Further, future research should explore whether relationship duration may moderate the relationship between Affective Association and trust. That is whether the relationship between Affective Association and trust may depend on the length of relationship. This thesis speculates that business executives may tend to feel guarded or uneasy in self-disclosing highly intimate information to their strongest business ties irrespective of length of relationships, possibly due to individualistic dispositions in their business culture. Perhaps, business executives may be inclined to keep their

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<sup>13</sup> Bejou et al. (1996) examined determinants of relationship quality between salespersons and

business and personal lives separate for fears of exposing vulnerability, or being judged. If so, we would expect that for well-developed relationships over the years, Affective Association may increase slowly with increases in trust. However, Affective Association may increase steadily with increases in trust for less-developed relationships. These postulations are worth considering in future research.

### Common Ground

Furthermore, Pelled and Xin (2000) is the only research study in the past that shows the positive association between ethnicity similarity and trust in supervisor-subordinate relationships in the US, the present research has added an extra dimension of value similarity to be coupled with ethnicity similarity in predicting the level of trust in strongest business ties. Although the present findings are not conclusive due to the issue of item-parcelling, this has theoretical implications for future research design. In particular, exploring relationships between similarity and trust may require consideration of a wider variety of measures in assessing the construct of common ground. Likert scales rather than nominal scales should be used to measure these variables.

### Trust as an Antecedent

Although the present study viewed relationship strength as an antecedent of trust, some research has shown that trust also contributes to the establishment of close relationships. For example, Wieselquist, Rusbult, Foster and Agnew (1999) tested an interdependence-based model of the associations among commitment, pro-relationship behaviours, and trust in two longitudinal studies. Their findings revealed

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customers in the financial service industry.

a process of mutual cyclical growth. Dependence promoted strong commitment. Commitment promoted pro-relationship behaviours, valuing the good of the relationship as more important than their own self-interests. The perception of pro-relationship acts enhanced the partner's trust. Trust, in turn, increased the partner's dependence on the relationship. According to the model, the process then begins again. Furthermore, a study of ideals, ideal-perception consistency and relationship quality in early dating relationships development among students by Fletcher, Simpson, and Thomas (2000) indicated that trust was consistently scored highest among other six measures<sup>14</sup> of relationship quality across all four research phases<sup>15</sup>. The results implied that “rather than slowly building from relatively low levels, fairly high levels of trust may be a prerequisite for first dates even to occur” (Fletcher et al., 2000, p.939).

These points raise the question of whether trust can be conceptualised as an antecedent of Relationship Association rather than a consequence of relationship strength in the present study. In other words, does Relationship Association mediate the effect of common ground on trust, or does trust mediate the effect of common ground on Relationship Association? For the purpose of the discussion here, the hypothetical model in Figure 5.7 was revised to incorporate this reverse causation while other path relationships depicted in Figure 5.7 remained unchanged. The alternative model with reverse causation also gave an adequate fit to the sample data explaining 40% of the variance, which is 3% less than that of the original estimated model reported in Figure 5.10. The theoretical implication may be that trust and

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<sup>14</sup> The other six measures were satisfaction, commitment, closeness, passion, love and romance.

<sup>15</sup> There were four research phases in Fletcher et al. (2000): Phase 1: the first data collection. Phase 2: one month after phase 1. Phase 3: two months after phase 1. Phase 4: one year after phase 1.

relationship strength reinforce each other. Stronger relationships with strongest business ties increase trust in them, and this increased trust, in turn, promotes greater relationship strength. This cyclical process is similar to that suggested by Wieselquist, Rusbult, Foster and Agnew (1999) in their interdependence-based model. This recursive process between business executives and their strongest ties with or without friendship should be further explored in future research.

### Power Imbalance in Dyadic Exchange Relations Revisited

In the construct of Relationship Association, this thesis measured the extent of *mutual* dependency on egos' and alters' network resources as perceived by egos. This has theoretical relevance to investigation of the influence of power imbalance on dyadic trust in the present context.

The section in the previous chapter concerning the extent of network dependency described an attempt at measuring egos' perception of power inequality. However, this attempt failed at the first step due to the cognitively demanding nature of the two measures. However, when "power resides implicitly in the other's dependency" (Emerson 1962, p. 32), future research design should solicit responses of ego's perception of his/her dependence on alter's resources, and perception of alter's dependence on ego's resources. This should replace the variable of mutual dependence on each other's resources. Relationship Association and other constructs in the trust models should be measured from the perspectives of both egos and alters. Differences in perception would shed light on the influence of power on dyadic trust.

### **Practical Implications**

The above findings have implications for building trust with strongest business ties in Southern England. Having been to the same college, school, or university, and having similar leisure activities were the significant features of common ground that strengthened the relationships and thereby trust indirectly in business relationships that contained friendship. These findings suggest that if business executives were inclined to build a network of strong ties with a few being the strongest business friendship ties, they would tend to build trust with those who shared activities and work, school, or university environment in the past. These findings are consistent with the idea that people build relationships with contacts in their “old boys’ networks”, which are made up of people who have been to the same educational institution. Being in an old boys’ network may not be conducive to friendship formation. Engaging in activities that two individuals shared may provide an incentive necessary for continued interaction, and a common context for gradual exchange of information. Shared activities, and other similarity probably contribute to a successful relationship in business. As a result of item-parcelling of common ground, detailed information is lost. A further study can investigate which specific characteristics or common ground shared would influence trust in strongest business friendship ties. This can be achieved by re-phrasing the questionnaire item as “to what extent do you share this characteristic with Person A?” as suggested earlier in order to increase the power of the test. Moreover, since the study did not solicit information concerning whether Person A was part of an old boys’ network, this thesis suggests including this aspect in future research on this topic. Moreover, discussion about gender effects on trust and “old boys’ networks” will be presented in the section on future research directions in the final chapter.

In summary, four possible antecedents of interpersonal trust of business executives in their strongest business ties with and without friendship have been investigated. In comparing the predictors for these two types of ties, the results showed that dyads in strongest business friendship ties shared more common ground than relationships without friendship. The frequency of being let down negatively predicted trust in friendship ties as hypothesised, but no evidence was found for a similar influence on ties without friendship. The latter findings contrasted with predictions. Since information was lost in the procedure of item-parcelling, we can only conclude that sharing certain common ground, such as similar education, interests, and social environment at work, school or university, indirectly influenced the level of trust in strongest business friendship ties. Future research should investigate which particular combination of common ground indirectly predict trust by improving the measures of common ground and including acquired and ascribed characteristics, and business values. The theoretical implications for the measures of business tie strength and business friendship, and operationalisation of relationship duration with trust were discussed. Finally, practical implications for building trust with strongest business friends using “old boys’ networks” were addressed. The present study has shown some results that require further investigation in future research studies. They will be discussed in the overall discussion of the thesis in light of the results of the other two studies.

## **PART C**

### **BUSINESS TRUST VALUES: A COMPARATIVE STUDY OF BUSINESS EXECUTIVES IN SOUTHERN ENGLAND AND HONG KONG**

#### **Literature Review**

The first study in Part A of this thesis suggested that business executives expect honesty and reliability as two fundamental components of trust in their business associates, whether the relationship is strong or weak. Clearly, there is scope for developing our understanding of what core business trust values may exist beyond honesty and reliability in business dealings with associates from other organisations. The objectives of the present study are fourfold. First, to develop a multidimensional scale of business trust values. Second, to test hypothesised factor structures for UK and HK business executives. Third, to compare levels of the common aspects of trust between UK and HK business executives. Fourth, to examine Institution-Based Trust (IBT) specifically for the UK. Fifth, to examine whether the cultural dimension of individualism-collectivism has any relationship to business trust values. The study was intended to be exploratory.

Previous researchers have explored the multidimensional nature of trust between superiors and subordinates in organisations (e.g. Jennings, 1971; Gabarro, 1978; Butler & Cantrell, 1984; Butler, 1991), between organisations or units of organisations (e.g. Cummings & Bromiley, 1996), and between suppliers and customers (e.g. Sako & Helper, 1998). Although the organisational context of these studies is not directly applicable to business dealings with the other organisations

## Chapter 6

considered here, the measure of trust in separate domains has an indirect bearing on my conceptualisation of business trust values in the present study.

The present study aims to understand some of the values that people have in order to make a decision to trust somebody in business transactions. This is achieved by examining the concept of trust more closely by breaking it down into four domains of trust values. Since the present study includes a cross-cultural comparison, this chapter will begin with a review of the role of individualism and collectivism in influencing business trust values. Four possible domains of trust values towards others in business dealings will be proposed as the chapter progresses. Here, they are briefly introduced:

First, the study presented in Part A of this thesis found that reciprocation of favours did not have an effect on the level of trust with strong and weak ties in Southern England. However, reciprocation of favours may be significant in a different culture. The present study aims to explore whether attitudes towards reciprocation of favours would be significant in forming part of business executives' trust values in Hong Kong.

Second, societies provide a platform of formal rules and regulations in the legal and business environment for people to conduct business. The regulatory environment that allows for business dealings is what Zucker (1986) calls institution-based trust. When formal rules and regulations are well developed in a country such as Britain, business executives may find that institutions are part of a framework of trust, providing a platform of common standards for them to trust others in their business dealings. IBT

was examined specifically for the UK. Because of the need to restrict questionnaire length, the IBT items were not used on the HK sample.

Third, earlier in the Introduction, it was proposed that people may like to conduct business dealings with others whom they believe to be honest as a means of minimising risks, particularly in situations of uncertainty and vulnerability.

Fourth, when a business person behaves in a manner that is questionable in terms of ethics, trust in the individual can be shaken. Business executives may have negative attitudes towards unethical behaviours. These attitudes may be particularly important when they believe that there may be a risk of being exploited by others.

The main body of this chapter will begin with a review of the literature concerning individualism-collectivism and trust. Reciprocation of favours, IBT, trust in situations of uncertainty and vulnerability, and attitudes towards ethics in business are then reviewed in order to support the proposal of the four domains of business trust values. The relationship between culture and business ethics, and between individualism-collectivism and these trust values will be examined in order to explore whether the trust domains are culturally embedded. Measures of individualism-collectivism will be reviewed in order to identify relevant items for the present study. Finally, various measures of trust will be reviewed, including some relating to organizational contexts and close relationships. The aim of this review is to identify measures relevant to the proposed domains of trust values in the present study.

### 6.1 Individualism-Collectivism and Trust

This thesis focuses primarily upon the most commonly investigated and most influential cultural dimension of individualism-collectivism and assesses its relation to trust values. This section begins with a review of Hofstede's (1980) formulation of this dimension. Then, previous research assessing the relationship between individualism-collectivism and trust values is reviewed.

#### **Individualism-Collectivism**

One influence on trust may be an individual's cultural background. Early in life, people are socialised into a set of values and social norms defined by their culture. These values influence people to prefer certain states of affairs to others (Hofstede, 1980). Individuals in different cultures may have dissimilar expectations of trusting behaviours, and thus different trust values in business.

Culture is a complex construct. Individualism and collectivism are perhaps the most useful and powerful dimensions of cultural variation in value orientations that explain diverse facets of social behaviour (Triandis, 1995). Hofstede (1980), Kluckholm and Strodtbeck (1961), Schwartz (1994) and Trompenaars (1993) all found evidence for individualism and collectivism, in spite of different times, samples and methods. This convergence suggests that individualism and collectivism are broad cultural constructs that encompass basic values relating to social behaviour (Triandis, 1995).

Hofstede's (1980) cultural study of work values among employees of a multinational organisation with operations in 53 countries inspired a new wave of research for

cross-cultural psychologists to explore a general cultural pattern dividing East and West. His dimension of individualism-collectivism is the most widely adopted measures of cultural variation among many cross-cultural studies (e.g. Triandis, 1990; Triandis et al., 1990; Triandis et al., 1988; Triandis et al., 1985; Hui, 1988; Hui and Triandis, 1986). In individualistic cultures, the needs, values, and goals of individuals take precedence over the group's. In collectivistic cultures, the needs, values, and goals of the group take precedence over those of the individual.

Britain was ranked third highest in individualism in a study of 50 nations, outranked only by the USA (No. 1) and Australia (No. 2). Hong Kong, by contrast, was ranked at number 37 (Hofstede & Bond, 1988). In general, Britain may be regarded as an individualistic society, whereas Hong Kong may be regarded as a collectivistic society. However, there are other considerations for business executives in the present study. These are summarised below:

First, it seems possible that the UK was particularly high on individualism during the Thatcher era from 1979 to 1989. Conservative Party rule at the time encouraged private entrepreneurship. Entrepreneurial activities demanded personal characteristics of needs for achievement, autonomy and power (McClelland, 1961). It is therefore possible that the UK is now a less individualistic culture than it was when Hofstede and Bond's (1988) data were collected.

Second, after the political handover from Britain to China in 1997, collectivism may have increased in Hong Kong society generally. However, business executives, who would have high needs for achievement and autonomy, might resist collectivist

influences from the surrounding society, or apply their collectivist attitudes only to their family members and not their business associates. Indeed, studies of small business owners in Nepal found that Nepalese entrepreneurs were competitive and motivated to be on their own (Bhawuk & Udas, 1996). These were individualistic attitudes like the prototypical western entrepreneurs. However, these Nepalese entrepreneurs were also responsible to their ingroup members. In other words, Nepalese entrepreneurs were both individualistic and collectivistic. Perhaps, HK business executives may show a similar pattern.

One possible implication is that both HK and UK business executives are individualistic, either as a consequence of their occupation or because of dispositional factors that attracted them to such an occupation in the first place. A study of entrepreneurs in West Bengal (a state in India) by Chattopadhyay and Ghosh (2002) indicated that individualism was positively correlated with entrepreneurial success, whereas collectivism was negatively correlated.

Therefore, a relevant research question is whether individualistic or collectivistic values may influence HK and UK business executives' trust values. For example, building trust by reciprocating favours may be inherently affected by collectivistic values. However, conducting business transactions with people who are believed to be honest may not be influenced by collectivistic values, but rather individualistic values. These are some of the questions that this thesis aims to explore. A review of the literature concerning trust and individualism-collectivism is presented below.

### **Past Comparative Research Studies on Trust Between Countries**

No previous study of trust values has assessed the effects of culture. However, there are three cross-national comparative studies, one of inter-organisational trust and the others of trust in others in general. They have implications for understanding the underlying cultural differences, and are therefore summarised below.

Sako and Helper (1998) explored opportunistic behaviours and inter-organisational trust between buyers and suppliers in the automotive industry in Japan and the United States. Their findings revealed one component in the US called “distrust”, but three components in Japan called “customer opportunism”, “goodwill trust”, and “competence trust”. These findings suggested that Japanese and US suppliers conceptualised trust differently, with Japanese suppliers distinguishing different types of trust. For example, the goodwill trust factor might suggest that reciprocity was more important than contractual trust in the Japanese conceptualisation of trust than the US counterparts. This result has implications for the present study since both Hong Kong and Japan’s cultures are collectivistic, whereas the US and the UK are individualistic. In particular, we may expect that Hong Kong business executives will emphasise reciprocation of favours in building trust with people in business, but that their counterparts in the UK may not. Whether UK business executives rely on trust that is based on contracts and regulations will be further examined below.

Yamagishi and Yamagishi (1994) developed a General Trust<sup>1</sup> scale that concerned honesty and trustworthiness of people in general. In their comparative study of the US

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<sup>1</sup> The General Trust Scale consisted of 6 items. (1) Most people are basically honest, (2) Most people are trustworthy, (3) Most people are basically good and kind, (4) Most people are trustful of others, (5)

and Japan, respondents in the US scored higher on this scale than their Japanese counterparts. This result suggested that those from the US considered most people to be honest and trustful of others. The investigators suggested that the finding was related to collectivism-individualism. The collectivistic culture of Japan would emphasize group boundaries with favouritism given to in-group members (Triandis, 1989, 1990). Such a culture would therefore encourage mutual assurance in networks of committed relations within in-group members. Assurance was defined in the study as “an expectation of benign behaviour for reasons other than goodwill of the partner” (p. 132). The researchers suggested that the more trusting attitudes towards people in general in the US was the result of the individualistic culture that did not emphasise committed relations (Yamagishi & Yamagishi, 1994).

Bhawuk & Brislin (1992) also developed a similar argument. They argued that those high on the individualism scale are self-reliant, competitive, trusting of others, and focused on utilitarian views of exchange and competence (Bhawuk & Brislin, 1992). The utilitarian view suggests that others are trusted if it is in others’ own interests to behave well and earn trustworthiness. People obtain better outcomes if they assume that others are reliable.

Further, Huff and Kelly (2003) conducted a study of levels of organisational trust in individualistic versus collectivistic societies in Japan, Korea, Hong Kong, Taiwan, China, Malaysia, and the United States. Their findings revealed that organisation members from Illinois, USA, had significantly higher propensities to trust other members and lower propensities to distrust than their counterparts in all Asian nations

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I am trustful, and (6) Most people will respond in kind when they are trusted by others (Yamagishi &

with collectivist cultures. Propensity to trust refers “to an expectation that others in general, whether members of in-groups or out-groups, can be trusted” (Huff & Kelly, 2003, p. 83). Therefore, individualists tend to have a more universal view of others, and are much more likely to trust others than collectivists until they are given some reason not to do so. By contrast, those high on collectivism are more likely to base their trust on first-hand knowledge of relationships and on whether the potential targets of trust are in-group members. In dealings with those who are not in-group members, collectivists are less trusting and more risk-averse. Exchange relationships with out-group members will only happen in the presence of strong institutional safeguards such as legal sanctions (Yamagishi & Yamagishi, 1994). This conclusion has two implications for the present study. First, this thesis explores whether business executives in the UK tend to have a higher trusting stance than their counterparts in HK. Second, it assesses whether UK business executives rely on the presence of formal rules and regulations when developing trust in their business dealings in an individualist society where individuals may have higher propensities to trust others. These questions will be addressed in Section 6.3 and 6.4 below.

Formal rules and regulations, and institutional safeguards are implicated in Zucker’s (1986) concept of institution-based trust. This thesis posits that there may be two domains of trust values towards others in business dealings. One is related to reciprocation of favours in interpersonal relationships, and the other is related to Zucker’s (1986) IBT. These topics are reviewed in the sections below.

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Yamagishi, 1994, p. 147).

### 6.2 Reciprocation of Favours and Guanxi

In China, interpersonal relationships are understood in terms of the concept of “guanxi” (Yang 1994; Yeung & Tung, 1996). Guanxi is a general term for social networking in Chinese, and is often translated as “relationship” or “connection” (Yeung & Tung, 1996, p. 55). A qualitative study of guanxi in China by Xin and Pearce (1996) suggested that personal connections are substitutes for formal institutional support due to an underdeveloped legal framework in China. Such personal connections seem particularly important to executives conducting business dealings in countries without a stable legal and regulatory environment (Redding, 1990; Zucker, 1986). Hwang (1987) notes that two of the most frequently used tactics to enhance guanxi in Chinese society are presenting a gift to and holding a banquet for the other party in an exchange. Other researchers (e.g., Redding, 1982; Bond & Hwang, 1986; Shariff & Lee, 1988) have highlighted the importance of mutual obligations and favours as the primary mechanism to hold social networks of family, friends and business associations together.

Yeung and Tung (1996) highlight the importance of guanxi values in a qualitative study of factors contributing to long-term business success in China. The results of this study suggest that tendering favours is part of an integrated approach to relationship building and maintenance, nurturing long term mutual benefits, and cultivating personal relationships and trust. They explain that tendering favours commonly takes the form of gift-giving, entertainment at lavish banquets, overseas trips, and sponsoring and supporting the children of Chinese government officials at universities abroad.

Tendering favours, in effect, produces process-based trust (Zucker, 1986). Process-based trust is trust tied to past or expected future exchange, which can be produced by exchanges of gifts, or created by having positive reputations or name brands among buyers (Zucker, 1986). “Gift exchanges implicitly produce trust, because histories of such exchanges are usually readily available to the partners and because expectations are often culturally given” (Zucker, 1986, p. 61). In a sense, trust between two actors in certain cultures is built on past exchanges of gifts in addition to other influences, and expectations of future gift exchanges maintain trust between them further.

However, Hong Kong was previously a colony of Great Britain and has been influenced by Western standards of professionalism. A relevant question is whether HK business executives maintain their social networks by tendering favours as a means of building trust in their business dealings. This thesis posits that HK business executives are likely to use the tactics of tendering favours and reciprocation of favours to build trust. To assess this, I included items relating to *Reciprocation Trust* in the multidimensional trust scale used in the present study. This domain of trust values is predicted to emerge in the factor structure for HK business executives. It is therefore hypothesised that:

*Reciprocation Trust will emerge as a principal component in the HK factor structure.*

(first domain)

Reciprocation Trust differs from reciprocal trust. Reciprocal trust was identified in studies of reciprocity of trust between professionals and secretaries in Butler’s (1983)

paper (which was reviewed in Chapter 1), and between sales managers and salespersons in Lagace's (1991) paper. Reciprocal trust refers to trust being reciprocal. For example, secretaries' trust in their bosses directly influences bosses' trust in their secretaries (Butler, 1983). However, the emphasis of Reciprocation Trust is on the use of reciprocation of favours in producing dyadic trust.

### 6.3 Institution-Based Trust, Law and Contract

Because of the problem concerning questionnaire length in HK mentioned earlier, this thesis examines IBT specifically for the UK. IBT in HK will be discussed in the discussion section of the following chapter. Below is a review of literature concerning IBT, law and contract.

Does the presence of formal rules and regulations produce trust? In addition to process-based trust, Zucker (1986) introduced the concept of institution-based trust. Yeung and Tung (1996) suggest that "while relationships and networking are also important in the West, their role is often overshadowed by institutional law, which establishes what can and should be done" (Yeung & Tung, 1996, p. 64). In Zucker's (1986) theoretical conception, there are two types of institution-based trust: (1) person or organisation specific, and (2) intermediary mechanisms. For the former, having a professional certification as a lawyer, an accountant, or a therapist, an education of M.B.A., a professional association membership with Chartered Institute of Engineers, or an organisation being a member of Association of Manufacturers provide clear signals of trust. This form of trust rests on membership in a subculture within which a set of expected standards, and rules are followed. An example of intermediary

mechanisms is using insurance to safeguard transaction failures. Zucker (1986, p. 64) suggests that “use of insurance signals that a firm has done everything ‘reasonable’ to protect the other party from loss and that it is behaving in a responsible manner.”

Further, the mere presence of formal intermediary mechanisms does not demonstrate a lack of trust, but rather creates trust. For example, the willingness to sign a formal contract can be seen as an indicator of trust (Zucker, 1986).

However, there are differences in attitudes towards the use of contracts between countries. Lane and Bachmann’s (1997) cross-national qualitative study of the relationship between trust, power and law in Britain and Germany revealed the similarities and differences in attitudes. In both countries, contracts were predominantly regarded as reassuring background documents that would rarely or never be activated to enforce rights or obligations. Legal enforcement of contract terms was seen as a remote and undesirable possibility. It is more prevalent in Germany than in Britain to perceive contracts as helping to develop relationships so that both sides know their position. Formal contracts were more common in Germany. Most German respondents explicitly connected the strict honouring of contract terms with trust in business relations (p.247). In Britain, there is more contractual freedom for the individual. Hence there is low uniformity in contract clauses and contractual relationships. “Law is invoked as a last resort, and more freedom is left to individual managerial initiatives in the regulation of business relations” (Lane and Bachmann 1997, p.249). As a result, there is more economic individualism and freedom in the use of contracts such that the presence of law is less widely and uniformly accepted in business relations in Britain.

A relevant research question is whether a formal institutional structure with rules, regulations and contracts provides a ready-made environment for trust in the UK. (i.e., a platform of common legal framework that allows people to operate businesses). Further, another question is whether business executives in Southern England rely on such a platform when developing trust in their business dealings. This thesis posits that values derived from IBT may make a significant contribution to trust in Britain, as argued by Zucker's theory of production of trust. However, attitudes towards IBT may not be very positive in accordance with Lane and Bachmann's (1997) findings. In this respect, the thesis proposes another domain of trust values towards others in business dealings, called *Institution-based trust*, which forms a second domain of the multidimensional structure of the trust factor. The trust values relating to this domain primarily concern the legal environment of formal rules and regulations, and attitudes towards use of contracts and intermediary mechanisms for safeguard protection. It is posited that IBT may be a significant domain of trust among UK business executives. Therefore, it is hypothesised that:

*Institution-based Trust will emerge as a principal component in the UK factor structure. (second domain)*

Thus far, I have identified two possible domains of trust in others in business dealings. Reciprocation Trust is predicted to be a significant domain of trust among HK business executives. IBT is predicted to be a significant domain of trust among UK business executives.

### 6.4 Trust in Uncertain and Vulnerable Situations

Heimer (2001) suggests that the core problems of trust relations are uncertainty of situations and vulnerability of one party to the other when especially concerned about their trustworthiness. Heimer (2001, p. 43) defines uncertainty as “the inability of an actor to predict the outcome of an event because s/he lacks information about the intentions and competence of the other who directly controls the outcome.”

Vulnerability is the risk that an actor is faced with in an interaction in which his or her assets are at stake (Heimer, 2001). Thus, willingness to take risks involved in social exchanges is vital in trusting others (Tyler, 2001). In close relationships, the individual must be willing to accept risk in order to experience closeness (Rempel, Holmes & Zanna, 1985). When one accepts a vulnerable position and experiences a negative outcome, one will be less likely to risk trusting the same partner in the future, and perhaps other people as well.

In business, how do people manage uncertainty and vulnerability? There could be two strategies. First, Heimer (2001) suggests that people can manage trust problems by reducing their vulnerability to possible monetary losses. They may safeguard their interests so that they need not worry about others’ intentions or competence. The probability of loss is covered by insurance. In this sense, this strategy is a form of IBT. It is related to putting financial safeguards in place in order to decrease the risks of transaction failures (Zucker, 1986).

Second, the finding of the experiment presented in Part A of this thesis showed that business executives expected their strong and weak ties to be honest, reliable, and

discreet in keeping sensitive matters confidential. Honesty has been viewed by researchers (e.g., Altman & Taylor, 1973; Rotter, 1971; Larzelere & Huston, 1980) as the extent to which an individual's statements of future intention are believable. The findings presented in Part A suggest that people may tend to choose to do business with people who they believe to be honest or who share their principles of honesty, as a strategy to reduce uncertainty and risks. A relevant research question is whether there are discretionary trust values relating to preferences for dealing with honest people in business in order to minimise uncertainty and vulnerability. In this connection, this thesis proposes a domain of trust values towards others in business dealings, called *Discretionary Trust*, as the third domain in the multidimensional structure of the trust scale. This thesis posits that HK business executives tend to do business with people who they believe to be honest. Discretionary Trust may be a significant domain of trust among them. For the UK counterparts, this thesis earlier posited that IBT might be a significant domain of trust for UK business executives. Since there is more contractual freedom for the individual to operate within the law in the UK (Lane & Bachmann, 1997), we may expect that UK business executive may have the same preference for doing business with those who they believe to be honest. Both HK and UK business executives may adopt the same strategy to reduce uncertainty and vulnerability. Therefore, it is hypothesised that:

*Discretionary Trust will emerge as a principal component in both the UK and HK factor structure. (third domain)*

Thus far, this thesis has posited two possible domains, IBT and Discretionary Trust, among UK business executives, and two possible domains of Reciprocation Trust and

Discretionary Trust among HK business executives. Next, we examine ethical considerations in business dealings and influences of culture in order to obtain a fuller picture of possible trust values.

### 6.5 Ethical Considerations

Different ethical values affect trust behaviours. Stewart (1995) summarises three types of business people on an ethical scale: (1) The immoral and illegal, cutting corners or evading the law. (2) The amoral, obeying the letter of the law but unconcerned with the spirit of the law. (3) The moral and forward thinking, not only looking beyond the minimum requirement of the law, but also to the future and societal requirements. Allinson (1995, p.20) highlights the attitude that ethics are not considered in business when “after all, this is business”. This means that ethics is not considered, or business ethics is a separate subject from business. Such an attitude can be seen in statements such as “when I go home to my family, I will put on my ethical hat; now, I am wearing my business hat” (Allinson, 1995, p. 20). Dolecheck’s (1992) quantitative comparative study of Hong Kong and American business personnel confirms the existence of this attitude. The study reveals different perception of business ethics between Hong Kong and US business personnel of private organisations. The results show that 59% of HK respondents compared to 29% of US respondents believe their personal ethics of dealing with family and friends are higher than their business ethics, and also believe that this is true for other executives. Moreover, 49 % of the HK respondents compared with 9% of the US counterparts believe that business ethics would simply amount to operating a firm in such a way as to stay within the law. The findings also suggest that what is perceived to be moral

and ethical by the HK business personnel would be perceived to be immoral by the US counterparts.

Some values must govern the assessment of what constitutes right or wrong, or good or bad human conduct in a business context (Shaw, 1999). Differences in cultural values and/or attitudes towards IBT may lead to different conclusions about what is right or wrong, and therefore conflicts of interests between actors in transactions. This thesis posits that HK business executives may be operating in a hybrid environment. On one hand, formal rules and regulations have been developed under the influence of British colonisation. On the other hand, ethical attitudes are less strongly endorsed in HK than in a country such as US. In such a hybrid environment, Tse et al.'s (1988) findings revealed that HK executives were more influenced by their exposure to Western business practices than by Chinese heritage. The Chinese heritage referred to here is that of building trust through cultivating personal relationships and characteristic-based trust, which are more paramount in a country with underdeveloped institutional foundations (Zucker, 1986). It also refers to tendering favours in order to produce trust in Chinese networks (Yeung & Tung, 1996). Earlier in the chapter, this thesis posited that Reciprocation Trust might be a significant domain of trust among HK business executives. While tendering favours may help produce trust in Chinese social networks, HK business executives may rely on other strategies in order to develop trust in others. One possible strategy would be an active assessment of trustees' honesty examined in the previous section. Another strategy would be an active assessment of other values such as ethical attitudes.

In the previous section, this thesis proposed that HK business executives may tend to choose to do business with people who they believe to be honest in order to reduce uncertainty and vulnerability, and that Discretionary Trust may be a significant domain of trust for them. A relevant research question is whether HK business executives are faced with a conflict between preferring to have business dealings with honest people, and the inclination to conduct business practices in a less ethical manner. This thesis suggests that questionable or unethical business practices may not be criteria as part of trust value systems for HK business executives to judge whom to trust. HK business executives may be more inclined to do business with those who they believe to be honest, and who tender and reciprocate favours as bases to form their trust values. Thus, Discretionary Trust may still be a significant domain of trust among HK business executives in a culture where people tend to accept questionable business behaviours as their norm. Facing ethical questions may not present any dilemmas for them.

In the UK, we may expect attitudes towards ethics to be similar to those in the USA since the UK and USA have structured rules and regulations. In the previous section, this thesis proposed two possible domains, IBT and Discretionary Trust, among UK business executives. Here, two relevant research questions are raised. First, when UK business executives are faced with the dilemma of doing business with people who have questionable business practices, are they adaptable or tolerant of such behaviours? Second, are they willing to do business with others who they perceive to be dishonest or unethical? This thesis posits that UK business executives would be less tolerant of questionable business practices and less willing to do business with people who may not be totally honest. This thesis proposes another domain of trust values towards

others in business dealings, called *Ethical Trust*, as the fourth domain in the multidimensional structure of the trust scale. Ethical Trust concerns values relating to tolerance of questionable business practices and of doing business with people who may not be totally honest. It is posited that in addition to IBT and Discretionary Trust, Ethical Trust may be a significant domain of trust among UK business executives. We may expect that UK business executives' trust attitudes towards questionable business practices may be indifferent or intolerant while they operate in a regulated legal environment with some degrees of contractual freedom for individuals to manage business relationships (Lane & Bachmann, 1997). Therefore, the fourth domain of trust is hypothesised as:

*Ethical Trust will emerge as a principal component in the UK factor structure. (fourth domain)*

Thus far, this thesis has proposed four domains of trust values that might be assessed in a scale for experimental testing. It is posited that they are mutually exclusive or uncorrelated domains of trust values since the domains represent distinctive constructs. Their definitions are summarised below:

*Reciprocation Trust* – values relating to reciprocation of favours and tendering favours.

*Institution-based Trust* – values concerning reliance on the legal environment of formal rules and regulations, use of contract and intermediary mechanisms for safeguard protection.

*Discretionary Trust* – values relating to doing business with people who are honest and share same principles of honesty.

*Ethical Trust* – tolerance of questionable business practices and of doing business with people who may not be totally honest.

Further, this thesis posits that the subscription to trust values is different between UK and HK. For direct comparison between UK and HK, this thesis predicts that Discretionary Trust and Ethical Trust, may emerge to be significant domains among UK business executives, but Reciprocation Trust and Discretionary Trust, may emerge to be significant domains among HK executives.

Having proposed the respective factor structures of business trust values in both societies, this thesis reviews the subject of culture and business ethics below. The objective is to examine whether cultural dimensions would be expected to have an effect on ethical behaviours in business dealings.

### 6.6 Culture and Business Ethics

Most recent research exploring relationships between culture and ethical behaviours has located comparison countries along cultural dimensions in order to assess their

effects (e.g., Christie et al., 2003; Beekun et al., 2003; Elahee et al., 2002; Goodwin & Goodwin, 1999). These studies did not measure scores of cultural dimensions by country, but rather assigned dummy variables of high or low on cultural dimensions to compare countries.

For example, Christie et al. (2003) conducted a cross-cultural comparison of ethical attitudes of business managers in India, Korea and the US, using all Hofstede's (1980) cultural dimensions. The results revealed that managers in the US, who had high scores on individualism, considered nepotism, software piracy and sharing of insider information as more unethical than did respondents from India and Korea, who scored less highly on individualism. However, there were no significant differences in attitudes towards gift-giving across the three countries. On the dimension of power distance, ethical attitudes related to the compliance of a subordinate to a supervisor's order. Mixed results were found for the dimensions of uncertainty avoidance and masculinity. This was partly because of the lack of notable differences in the uncertainty avoidance and masculinity scores of the three countries. Based on expected cultural differences, it seems that the cultural dimension of individualism makes more of a difference than uncertainty avoidance and masculinity.

Further, Goodwin and Goodwin's (1999) study of ethical issues among business students from Malaysia and New Zealand found mixed results. The results were not consistent with the expected effects of Hofstede's cultural dimensions. The investigators suggested that "the relevance of Hofstede's cultural dimensions to both students and to attitudes about ethical issues has not been established, either in previous studies or in this present study" (p.279). Further, Beekun et al. (2003) found

that ethical assessments were situation specific and that assessment of ethical content (such as scenario type) of business decisions differed by national culture. That may explain why mixed results have been obtained in cross-cultural studies of ethics.

Because of the lack of evidence for relationships between ethical attitudes and cultural dimensions, this thesis makes no specific predictions about the effects of individualism-collectivism on ethical attitudes. Since it is posited that the domain of Ethical Trust may emerge in the UK but not in HK, we cannot examine the effect of culture on Ethical Trust across the two groups. However, if Ethical Trust emerges in both groups, the effect of culture can be examined.

### 6.7 Relations between Individualism-Collectivism and Trust Domains

Section 6.1, above, provided an introductory review of individualism-collectivism.

Below is a further review of how the notion of the cultural dimension has been developed, and its possible link to the domain of Discretionary Trust. I will be arguing that individualism may be associated with Discretionary Trust in HK, but not in the UK. In this respect, individualistic attitudes override collectivistic attitudes in HK.

Hofstede's (1980) work has been extremely influential and his construct of individualism-collectivism has been expanded and developed dramatically during the past two decades. A number of studies (e.g., Schwartz, 1990; Triandis, 1995) conceptualise the construct as multidimensional and multi-level. Examples of related concepts include interdependent versus independent self-construals (Markus & Kitayama, 1991), in-group goals versus personal goals (Triandis, 1990; Schwartz, 1990, 1992, 1994), and relatedness versus rationality (Kim et al., 1994).

Markus and Kitayama's (1991) theoretical framework suggested that Western cultures tend to emphasise the individual as an autonomous and independent person who is concerned with asserting personal rights and showcasing unique internal attributes (e.g. personality and ability); whereas Eastern cultures tend to stress interdependence, or maintaining group harmony and relationships. According to the theory, the independent self has some aspects that relate to particular social relationships (such as with the father) but are relatively independent of others (such as to co-workers). The interdependent self sees itself as more connected and less differentiated from others. "People are motivated to find a way to fit in with relevant others, to fulfil and create obligations, and in general to become part of various interpersonal relationships" (p.227). Individualism has been equated with the independent self, and collectivism with the interdependent self. A recent paper by Matsumoto (1999) summarised a number of past studies that directly tested Markus and Kitayama's theory, and challenged its validity. He asserted that mutual co-existence of independence and interdependence is a more accurate reflection of an Asian perspective on self.

This argument of co-existence was also suggested by Triandis et al. (1990) and Triandis (1993). Individualism and collectivism are simply emphasised more or less in each culture depending on the situation. Similarly, Schwartz (1990, p. 151) views that "the dichotomy leads one to overlook values that inherently serve both individual and collective interests". Most cultures include a mixture of individualistic and collectivistic elements, and most individuals carry both tendencies, and likewise, independent and interdependent selves.

In the context of networking and exchange, skilled actors do not 'network' indiscriminately. They form networks with those on whom they seem likely to be dependent (Grieco & Hosking, 1987, p.84). Axelrod (1984) suggests that perceived interdependence would promote co-operation between actors. A strategy of locking each other into a relationship would raise switching costs, and might facilitate the creation and maintenance of trust. In conducting business transactions with others, business executives are creating dependent relationship with their suppliers, customers, bankers, accountants or consultants. Since a collectivistic culture emphasises social relations and interdependence, this thesis assesses whether collectivistic-interdependence values would have an association with business trust values in Hong Kong. Turning to individualistic cultures, this thesis then assesses whether individualistic-independence or collectivistic-interdependence values would be associated with business trust values of UK business executives. Among the four domains of trust values, this thesis suggests two types of correlations:

First, cultural measures of collectivism-interdependence may correlate with Reciprocation Trust since tendering favours and reciprocation of favours are inherent values in collectivistic societies such as China (Bond, 1987).

Second, this thesis views that trusting someone who is honest reflects an individualistic valuation of someone's quality. If individualism and collectivism can co-exist in Hong Kong society, we may expect that cultural measures of individualism-independence may correlate with Discretionary Trust among HK business executives. In this respect, individualistic attitudes override collectivistic attitudes in HK.

However, we may expect a different cultural relationship with Discretionary Trust in the UK. Yamagishi and Yamagishi (1994) suggest that the individualistic culture explains the more trusting attitudes towards people in general in the US than in Japan. Huff and Kelly's (2003) findings support such a proposition in a comparison study of the US and six Asian countries including Hong Kong and Japan. This thesis takes the position that to trust someone who is honest would be a discerning kind of trust. The value is in contradiction with the propensity to trust others in general. Therefore, we may expect that cultural measures of individualism-independence will not correlate with Discretionary Trust among UK business executives. This thesis will assess these two possible correlations among HK business executives, but predicts no correlation among UK business executives.

Moreover, Bhawuk and Brislin (1992) and Huff and Kelly (2003) suggest that individualism promotes a trusting stance. According to their argument, individualists have a higher propensity to trust others than collectivists. Perhaps, individualists who value individual qualities would generally assume that people can be trusted, whereas collectivists who value the collectiveness of members in a group would only trust ingroup members. In the context of the present thesis, it is questionable whether UK business executives in individualistic culture may tend to display higher trust in those who they believe to be honest or those sharing same principles of honesty than HK counterparts in collectivistic culture. However, because of the discerning nature of Discretionary Trust, this thesis posits that the domain of Discretionary Trust among UK business executives may show similar relations to that of HK counterparts. That is both groups might have similar attitudes in this domain of trust.

Below is a review of the key measures of individualism-collectivism, and independence-interdependence.

### 6.8 Measures of Individualism and Collectivism

In addition to Hofstede's (1980) measures of individualism-collectivism, the related measures researched by Hui (1988), Schwartz (1992), Collett, Emler and Fielding (unpublished), Singles (1994), and Bond (1987) are reviewed in this section. Relevant items are extracted for the present study with minor changes to suit the study context. The criterion for item selection is that the context must be relevant to the current context of interpersonal trust in business relationships.

Hui (1988) stated that Hofstede's (1980) six items on work values could not discriminate individualist cultures from collectivist ones. Hui's (1988) 63-item INDCOL scale was developed to measure the target-specific construct of individualism-collectivism with six sub-scales. Each sub-scale corresponds to a target group: spouse, parent, kin, neighbour, friend and co-worker. It is based on the theory that collectivist tendency can vary across and among target persons. The context of the target groups is not relevant to the present study except one item in the target group of friend. This item is "I would rather struggle through a personal problem by myself than discuss it with my friends (Hui, 1988, p.34)", which is adopted to the current research. This item is grouped under Self-Direction.

Another well known multidimensional measure is the Schwartz value survey (Schwartz, 1992). Schwartz's sub-dimensions of power, achievement, hedonism, stimulation and self-direction comprise individualism. Collectivism includes the sub-dimensions of benevolence, tradition and conformity. Based on Schwartz's theory, Collett, Emler and Fielding (unpublished) expand these human value items into attitude statements combined with the five-factor personality theory, to create a self-description inventory called 'Big Tim'. Six of the 72 attitude statements in 'Big Tim' relating to Schwartz's human values are adopted in the present study. They are measures of two sub-dimensions: 'self-direction' under individualism and 'conformity' under collectivism. The self-direction attitude statements depict attitudes of self-independence, and the conformity items concern interdependence between individuals. Other items are irrelevant to the present focus of this thesis.

### Self-Direction

1. "Everyone should have the right to make their own choices, even if they turn out to be mistaken" (Self-direction: Freedom).
2. "People should not let others tell them what to do or think" (Self-direction: Freedom).
3. "People should set their own goals in life and not be influenced by others" (Self-direction: Choosing own goals).

### Conformity

1. "A person's first responsibility is to do their duty" (Conformity: Obedient). It is changed to "A person's first responsibility is to fulfil people's expectations of him/herself".

2. “A good citizen has to accept their obligations to society” (Conformity: Obedient). It is changed to “A good citizen has to accept their obligations to contribute to society”.
3. “Self-discipline is more valuable than spontaneity” (Conformity: Self-Direction).

The most well tested measure of the independent and interdependent self is the one devised by Singelis (1994). Some items relate to an in-group factor and others relate to the context of communication. There is only one item that seems to be relevant given minor modification:

### Independence

“I enjoy being unique and different from others’ with an added context of business.

Bond (1987) argued that Hofstede’s (1980) dimensions of cultural variation might themselves be culturally bound. Four factors concerning Chinese values were therefore constructed in a survey with university students in 22 countries around the world. Three of the four factors correlated with three of Hofstede’s four dimensions. The fourth factor, Confucian Work Dynamism, was unrelated to any of Hofstede’s factors. The eight items of Confucian Work Dynamism are ordering relationships, thrift, persistence, having a sense of shame, reciprocation, personal steadiness, protecting your “face”, and respect for tradition. In the context of the present study, the item about reciprocation has been covered by Collett’s et al. item, and the rest of the seven items were not relevant to the study.

### 6.9 Review of Other Trust Scales

Rather than constructing the items of the four separate domains from scratch, it was viewed that there might be items in other trust scales in a different context that might be relevant or could be adapted to the present context. Below is a summary of the review of other trust scales.

Researchers in the discipline of management have developed scales assessing trust in supervisor-subordinate relationships within organization (namely Gabarro, 1978; Butler & Cantrell, 1984; Butler, 1991 and Mayer et al., 1995). The former three studies explored conditions of trust such as honesty and discretion. Mayer et al. (1995) combined Rotter's concept of truster's propensity to trust with the rational choice of perceived trustworthiness and created a more complete model of trust production within organisations. However, none of the items seem to be relevant to our proposed domains of trust values between business executives in different organisations in the present study. In psychology, researchers such as Larzelere and Huston (1980), Johnson-George and Swap (1982), Rempel, Holmes and Zanna (1985), and Couch, Adams and Jones (1996) have developed a number of interpersonal trust scales in the context of social relationships. However, none of them seem to be relevant to the context of the present study about business relationships. The detailed review of the key studies is summarised in Appendix C under C.1. This thesis, therefore, uses a method of qualitative interviews to identify trust values. The final selected items will be covered in the measures section of the following chapter.

### 6.10 Summary

This review of the literature raised some research questions that necessitated the development of a Business Trust scale with four possible independent domains of subscales. These are Reciprocation Trust, IBT, Discretionary Trust and Ethical Trust.

This thesis posits that Reciprocation Trust and Discretionary Trust will be significant domains of trust values among HK business executives, whereas Discretionary Trust and Ethical Trust will be significant domains of trust values among UK business executives. The domain of IBT will be examined specifically for the UK.

It is hypothesised that UK business executives may have similar scores on Discretionary Trust to those of HK business executives. Further, cultural measures of collectivism-interdependence may correlate with Reciprocation Trust in the HK group. However, cultural values of individualism-independence may correlate with Discretionary Trust in the HK group, but not the UK group. In the next chapter, a study will be presented to develop the factor trust scale with the four possible domains including IBT, and to test for the hypothesised correlations.

**A Study to Develop a Business Trust Scale, and to Compare Business Trust Values in Southern England and Hong Kong**

The preceding chapter developed a rationale for four possible domains of trust values in business dealings. They were Reciprocation Trust, Discretionary Trust, Ethical Trust, and IBT. Different factor structures were predicted for the two countries under investigation: Discretionary Trust and Ethical Trust for UK business executives, and Discretionary Trust and Reciprocation of Favours for HK business executives. The domain of IBT is examined specifically for the UK. Moreover, the cultural dimension of individualism-collectivism was considered, and a possible association with the domain of Discretionary Trust was predicted. It was suggested that UK business executives might have similar scores on Discretionary Trust to those of HK business executives.

This chapter begins by describing the research methods, the measures designed to examine the two predicted factor structures, issues relating to concurrent validity, reliability, and analytic procedures. The research findings are then presented in five sections. They are analyses of factor structures of individualism-independence and collectivism-interdependence, confirmatory factor analyses of the predicted factor structures in the UK and HK and IBT in the UK only, comparisons between UK and HK business executives on a common cultural factor and Discretionary Trust, and analyses of association between individualism-collectivism and Discretionary Trust for each group separately. Tests of concurrent validity were performed on Discretionary Trust and Ethical Trust scales in the UK sample. Finally, a discussion of the results will be presented.

### 7.1 Research Method

The UK sample comprised the same participants who were recruited in the study reported in Part A. They provided data via an electronic form on the Internet or using a paper-and-pencil questionnaire.

HK respondents were asked to complete a paper-and-pencil survey (See Appendix G) only (An Internet survey was ruled out due to cost). Chinese translation was not required since all HK participants spoke English. Therefore, translation error was not an issue. HK respondents were mainly recruited at business networking events such as Rotary Club meetings, and HK SMEs' (small-medium enterprises) business visits to Shenzhen in China.

#### 7.1.1 Measures

The theoretical framework developed through the literature review in the preceding chapter formed the basis both for generation of new items and their initial classification into four separate domains. A qualitative semi-structured interview method was adopted to develop more items within the domains of Reciprocation of Favours, Discretionary Trust and Ethical Trust. These interviews were conducted in Oxford, London, and Shanghai, as described in Part B of this thesis (see Section 5.1.1). For example, business executives in a number of interviews in the UK consistently mentioned the question stem "I trust people who share my principles of honesty". The value of "when doing business with people whom I know well, it is socially acceptable to express directly what I want financially" was to explore

whether trust is intact when money is discussed with familiar people. Similarly, key attitudes in the domain of Ethical Trust were extracted in the interviews. For example, the question stem “I can do business with people who are not totally honest, so long as I put safeguards in place” was voiced by business executives in Shanghai. However, the attitude of “I believe that even when someone has integrity socially (e.g. acts responsibly in daily life), this does not mean that he/she will display the same integrity in business” was mentioned by some business executives in both London and Shanghai. Only two items were generated in the interviews, which fell into the domain of Reciprocation Trust. This was because the importance of the domain was overlooked at the time of conducting the interviews. At least two more items should be elicited. Further, all the items of IBT were created on the basis of Zucker’s (1986) theoretical paper.

The final items for each domain are shown in Table 7.1. In total, twenty items describing business trust values in situations of transactional dealings were generated. There were four items in the domain of Discretionary Trust, five items in the domain of Ethical Trust, and nine items in the domain of IBT. The UK and HK questionnaires were piloted on a small set of business executives to ensure that the measured items were comprehensible.

Responses were on a nine-point scale, anchored by “completely disagree” (−4), “neutral/undecided” (0), and “completely agree” (+4).

The seven cultural items concerning individualism and collectivism were explained in the preceding chapter. Twelve additional items were generated through the interviews.

In total, there were nineteen cultural items (see Table 7.2). Of the twelve additional items, one item - “When handling matters and people in daily life, I can be myself without giving consideration to other people’s opinions” - was grouped under Self-Direction. These eight cultural items under the headings of Self-Direction and Conformity were rated in relation to “our society”. The rest of the eleven items related to independence and interdependence were created in business contexts, including two items taken from Singles (1994) and Collett et al. (unpublished). The responses were anchored on the same nine-point scale as the trust values.

Table 7.1 Items for Four a priori Domains of Business Trust Values

Reciprocation Trust

1. There is in general no obligation to reciprocate favours (e.g. information, discounts, referrals, advice, contracts, etc.). (reverse score)
2. When I obtain a business project as the result of an introduction by a friend whom previously I have only known socially, I would find a way to reciprocate the favour (e.g. commissions, appropriate gifts, etc.).

Institutional Based Trust

1. I believe that financial safeguards will decrease the risks of transaction failures, particularly with smaller companies.
2. In our society, we rely on legal regulations and formal rules to provide a secure environment for business dealings.
3. In our society, contracts are very important.
4. I think that business people in our society abide by the terms set out in their contracts.
5. I believe that there should be flexibility in contracts for subsequent re-negotiation.
6. I think that business people in our country generally obey the law.
7. When legal actions would be costly for me, I cannot rely on the law as an enforcement mechanism to recover bad debts. (reverse score)
8. When there is limited trust in a business relationship, contracts are used as safeguards.
9. I rely on the law as an enforcement mechanism to protect my business interests.

Discretionary Trust

1. I trust people who share my principles of honesty.
2. When doing business with people whom I know well, it is socially acceptable to express directly what I want financially.
3. I trust people with whom I have shared the experience of solving business problems.
4. When conducting average size or more major business, it is important for me to do business with people I believe to be honest.

Ethical Trust

1. I can do business with people who are not totally honest, so long as I put safeguards in place.
2. I believe that even when someone has integrity socially (e.g. acts responsibly in daily life), this does not mean that he/she will display the same integrity in business.
3. I can tolerate negative qualities, which I perceive in others, if it brings financial success.
4. I can tolerate doing business with others who use unconventional approaches (such as creative accounting, cutting corners, etc.). (reverse score)
5. I can tolerate regular clients who repeatedly delay payments. (reverse score)

Table 7.2 Cultural Items

*In business contexts:*

Interdependence

1. It is important to consider implications that they have for others when making decisions.
2. I find it difficult to be completely unaffected if I consider there is prestige attached to a person's social background.
3. I expect my network contacts to reciprocate favours.
4. I don't mind being dependent on my strong ties.
5. Other people's opinions influence my approach in handling matters.
6. It is more important to be polite than to be honest with other people. (Collett et al.)
7. I feel very uncomfortable until I can return a favour that someone has done for me.

Independence

1. I enjoy being unique and different from others (Singles 1994).
2. I value a sense of independence from the influences of others.
3. I believe that we should be self-sufficient by utilising our own resources.
4. I tend to handle business problems or worries by myself instead of sharing them with anyone else.

*In our society:*

Conformity

1. A person's first responsibility is to fulfil people's expectations of him/herself. (Collett et al.)
2. A good citizen has to accept their obligations to contribute to society. (Collett et al.)
3. Self-discipline is more valuable than spontaneity. (Collett et al.)

Self-Direction

1. Everyone should have the right to make their own choices, even if they turn out to be mistaken. (Collett et al.)
2. People should not let others tell them what to do or think. (Collett et al.)
3. People should set their own goals in life and not be influenced by others. (Collett et al.)
4. I would rather struggle through a personal problem by myself than discuss it with my friends (Hui, 1988).
5. When handling matters and people in daily life, I can be myself without giving consideration to other people's opinions.

### 7.1.2 Construction of a Psychological Scale

To construct a scale of business trust values, there are three areas of concern, reliability, reverse scoring and validity. Each of these areas is addressed in the following sections.

#### 7.1.2.1 Reliability

The reliability of a scale concerns how consistent scores are in its items. There are three main methods of estimating reliability: (1) test-retest measures, (2) alternate form measures, and (3) measures of test homogeneity. Test-retest reliability measures the correlation between two administrations of the same scale on two separate occasions. This method proved impractical in the present study due to the difficulty of recruiting business executives. Alternate form reliability measures the correlation between two different versions of the same scale administered to the same respondents on two occasions. This method also proved impractical for the same reason as the first. Measuring test homogeneity can be achieved either by assessing split-half reliability or by using Cronbach's Alpha. However, the number of items in each of the four domains of trust values was not sufficient to split the odd-numbered and even-numbered items into two sets. As a result, measuring Cronbach's Alpha was the key method of assessing reliability of the individual domains of the trust scale.

The general guideline is that internal reliabilities of a construct or a domain are expected to fall between 0.70 and 0.90 or more (Anastasi & Urbina, 1997). However, reliability can be less than 0.70 when the construct consists of only a few items.

Cronbach's Alpha will be reported in connection with the results of factor analyses.

### 7.1.2.2 Consideration of Reverse Scoring

Four of the twenty-one items in Table 7.1 were worded in the negative direction. The rest of the items were worded in the positive direction although attempts were made to reverse the scoring of some items in order to reduce acquiescence response bias.

However, interview respondents at the stage of pilot-test the items found it cognitively demanding when some of the items were worded in the negative direction.

As the respondents were busy executives, it was important to minimise the effort needed to complete the questionnaire in order to ensure a good response rate.

Therefore, only four of twenty-eight items were reverse-coded.

### 7.1.2.3 Construct validity and Concurrent Validity

In developing a scale, it is important to look for evidence of validity. Validity concerns how well the test measures what it is intended to measure (Anastasi & Urbina, 1997). This is divided into two main categories: construct validity and criterion validity.

Construct validity concerns evidence that the scale really captures the hypothetical characteristic of business trust values that it was designed to measure. This requires two types of evidence. The first is called convergent validity, which is demonstrated by high correlation with other relevant factors that the current factor, theoretically, should correlate highly with. The second is called discriminant validity, which is demonstrated by low correlation with factors that the current factor, theoretically, should correlate less highly with. In the present study, since the scales of business

## Chapter 7

trust values measure a newly proposed construct, there were no existing measures with which to compare it at the time when the study was designed. As a result, construct validity was not addressed in the design of the experiment. Evidence of construct validity will be further examined in the discussion section of this chapter.

Nevertheless, concurrent validity was assessed in the present study in order to obtain evidence of validity. This looks for evidence of correlation between the factor scale and a criterion-related measure, which is established at the same time. This was achieved by examining the relationship between the domain of Discretionary Trust and Ethical Trust, and two sets of trust measures administered in the study from Part A of the thesis. They were the following four items:

“I expect honesty from my strong ties”, and “I expect reliability from my strong ties”;  
“I expect honesty from my weak ties”, and “I expect reliability from my weak ties”.

This thesis posits two kinds of associations. The two items: “I expect honesty from my strong ties” and “I expect reliability from my strong ties” are expected to correlate positively with Discretionary Trust. However, these items are expected to correlate negatively with Ethical Trust. i.e., the more the respondents expect their strong ties to be honest and reliable, the less they are willing to put up with these unethical trust attitudes.

Moreover, the two items: “I expect honesty from my weak ties” and “I expect reliability from my weak ties” are expected to correlate negatively with Ethical Trust. However, it is not expected that these items will correlate with Discretionary Trust.

## Chapter 7

This is because the trust values of Discretionary Trust refer to trusting people with whom business executives shared the experience of solving business problems, and whom they know well.

Concurrent validity of IBT and Reciprocation Trust was not assessed due to lack of relevant criterion-related measures. Validity of these scales will be addressed in the discussion later in the chapter.

### 7.1.3 Research Participants

The UK sample included 109 business executives, and the HK sample was comprised of 103 counterparts.

As pointed out earlier, the 109 UK business executives were the same participants who completed the questionnaire of the study in Part A of this thesis. There were 77 males with a mean age of 45.26 ( $SD = 9.27$ ), and 32 females with a mean age of 42.66 ( $SD = 9.64$ ). There were no significant gender differences<sup>1</sup> in any cultural and trust items. They were all British with English as their native tongue

Of the 103 HK business executives, there were 79 males with a mean age of 44.32 ( $SD = 8.78$ ), and 24 females with a mean age of 37.17 ( $SD = 5.22$ ). Again, there were

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<sup>1</sup> There were significant gender differences in the means of two items: (1) "People should not let others tell them what to do or think" ( $t = -2.077$ , mean of males = 1.66, mean of females = 2.38,  $df = 107$ ,  $p < 0.05$ ), and (2) "I can tolerate negative qualities, which I perceive in others, if it brings financial success" ( $t = 2.063$ , mean of males = 1.27, mean of females = 0.47,  $df = 107$ ,  $p < 0.05$ ). However, by applying a Bonferroni correction on 39 multiple comparisons, the significant level for the individual test became 0.001. Thus, these two items were not significant.

## Chapter 7

no significant gender differences<sup>2</sup> on any item. All HK participants identified their cultural identity as Hong Kong Chinese although 14 of them were born in Mainland China. However, 98% of them indicated Cantonese as their native tongue.

The HK respondents were better educated than the UK respondents. 64.1% of the HK respondents had postgraduate degrees, compared to 27.5% in the UK sample. 38.5% of the UK respondents attended secondary school only as compared to 8.7% in the HK sample. Further, most of the HK respondents were recruited from various Rotary Clubs where English was the language in conducting meetings. This may explain the reason of better-educated HK respondents. These differences in education attainment and the recruitment channel may have implications for the findings, which will be addressed later in the chapter.

### 7.1.4 Analytic Procedures

The analyses included exploratory factor analysis of the cultural items, confirmatory factor analysis of the two predicted factor structures for both samples and IBT specifically for the UK, comparison of scores on Discretionary Trust for both samples, tests of correlation between individualism-independence and Discretionary Trust, and assessment of concurrent validity of Discretionary Trust and Ethical Trust. Before the data were analysed, three procedures were carried out as data integrity checks.

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<sup>2</sup> There was a significant gender difference in the means of one item, "People should set their own goals in life and not be influenced by others" ( $t = -2.307$ , mean of males = 1.95, mean of females = 2.79,  $df = 101$ ,  $p < 0.05$ ). Similar, after applying a Bonferroni correction on 30 multiple comparisons (excluding 9 IBT items), the significant level of testing became 0.001, and this item was not significant.

First, independent samples t-tests were carried out on all measured items to assess whether there were any significant differences in the means between 49 Internet entries and 60 paper entries in the UK sample. It was found that there were no significant differences<sup>3</sup> in any items between the Internet and paper surveys.

Second, one missing data point was found in a case from the HK sample. It was replaced by the mean of the item.

Third, the degree to which the data met the assumptions of multivariate normality was examined. The UK and HK data were not found to meet these assumptions by examining Mardia's (1970) coefficients of multivariate kurtosis and the related critical ratios of each estimated structural models, which will be presented in this chapter. The procedure of bootstrapping was therefore applied to all the analyses that involved structural equation modelling. These statistics will be presented together with the main findings in the relevant sections.

### 7.2 Results

The results will be presented in five sections. First, exploratory factor analyses of the cultural items will be presented for each sample in order to clarify the factor structures. A factor analysis of the whole sample is also presented. Second, I present the results of confirmatory factor analyses of the trust values items that were conducted to

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<sup>3</sup> There was a significant difference in the means of one item, "when legal actions would be costly for me, I cannot rely on the law as an enforcement mechanism to recover bad debts", between the Internet and the paper entry (Mean of Internet entry = 1.27, Mean of paper entry = 2.25,  $t = -2.44$ ,  $p < 0.05$ ). However, by applying a Bonferroni correction on 39 multiple comparisons, the significant level for the individual test became 0.001. Thus, this item was not significant.

confirm the two predicted factor structures for each sample and the items of IBT for the UK sample. Third, the results of testing significant differences between a common cultural factor and Discretionary Trust between the two samples are presented. Fourth, tests of correlation between Discretionary Trust and Individualism in both samples are described. Fifth, evidence of concurrent validity of Discretionary Trust and Ethical Trust in the UK sample is presented.

### 7.2.1 Factor Structures of the Cultural Items

Exploratory factor analyses were conducted in order to determine the dimensions underlying item correlations in the two cultures. This was done because most of the items were created for the purpose of the present study, and had not been tested in previous studies. Since some individualism and collectivism items were correlated (see the correlation matrices in Tables 7.5 and 7.6), two procedures were performed for both samples.

In the first procedure, all 19 cultural items treated as a group were factor analysed. The findings of the exploratory factor analyses with varimax rotation<sup>4</sup> are presented below in Table 7.3. In the second procedure, among the 19 cultural items, 9 items related to independence and self-direction were treated as one group of items, and 10 items related to interdependence and conformity were treated as another group. Each group of items was subjected to principal component analysis with varimax rotation

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<sup>4</sup> Analyses of the two groups of items were repeated with oblique rotation. For example, independence may correlate with self-direction. The objective was to inspect the component correlation matrix in the SPSS output such that the extracted components were not correlated. It was found that the correlations were less than 0.18 and that the results were identical to those with varimax rotation.

in the UK and HK samples. The findings are presented below in Table 7.4. Factors were rotated if that had eigenvalues greater than 1. Moreover, the two procedures were repeated by combining the UK and HK data, and the results are presented in the respective tables. The components with Cronbach's Alpha greater than 0.50 were extracted. The scree-plots for each extraction are presented in Appendix C (see references in Tables 7.3 and 7.4).

The above two procedures were also conducted using confirmatory factor analyses in AMOS, it was found that estimated models were unidentified because of small number of items under each predicted construct. Thus, results of exploratory factor analyses are presented below.

By comparing the factors extracted in the two procedures, most components were unchanged (marked "unchanged" in the tables 7.3 and 7.4). In the UK group, the two factors extracted were identical. However, in the HK group, three instead of four factors were extracted in the first procedure by treating all 19 items as a group. In this procedure, the first factor consisted of one individualism and two collectivism items with Cronbach's Alpha of 0.52, which was much lower than the desirable range of 0.70 and 0.90 as mentioned earlier in Section 7.1.2.1. In spite of correlations between some individualism and collectivism items, the reliability of the factor comprising both items was too low to draw any conclusion. Moreover, no common factor was extracted after combining the UK and HK data in the first procedure.

However, the findings showed one common component was extracted across samples with two items related to individualism in the second procedure when individualism

and collectivism items were treated as separate groups. Thus, results of the second procedure are presented in detail below:

Cronbach's Alpha of the common factor was 0.68 in the UK sample, but only 0.56 in the HK sample (See Table 7.4). The items were:

Common Component (UK:  $\alpha = 0.68$ ; HK:  $\alpha = 0.56$ )

Independence item 4 – I tend to handle business problems or worries by myself instead of sharing them with anyone else.

Self-Direction item 4 – I would rather struggle through a personal problem by myself than discuss it with my friends.

In the UK sample, in addition to the common component, another component related to individualism was extracted with Cronbach's Alpha of 0.61. None of the items related to collectivism were extracted into a component. The extracted component was labelled Self-Direction UK and the items were as follows:

Self-Direction UK ( $\alpha = 0.61$ )

Self-Direction item 1 – Everyone should have the right to make their own choices, even if they turn out to be mistaken.

Self-Direction item 2 – People should not let others tell them what to do or think.

Self-Direction item 3 – People should set their own goals in life and not be influenced by others.

In the HK sample, in addition to the common component, two components related to individualism, and one component related to collectivism were extracted. The extracted components were Self-Direction HK, Independence HK, and Interdependence HK, and the items were as follows:

Self-Direction HK ( $\alpha = 0.61$ )

Self-Direction item 1 - Everyone should have the right to make their own choices, even if they turn out to be mistaken.

Self-Direction item 2 - People should not let others tell them what to do or think.

Self-Direction item 5 – When handling matters with people in daily life, I can be myself without giving consideration to other people's opinions.

Independence HK ( $\alpha = 0.54$ )

Independence item 2 – I value a sense of independence from the influences of others.

Independence item 3 – I believe that we should be self-sufficient by utilising own resources.

Self-Direction item 3 - People should set their own goals in life and not be influenced by others.

Interdependence HK ( $\alpha = 0.68$ )

Interdependence item 3 – I expect my network contacts to reciprocate favours.

Interdependence item 4 – I don't mind being dependent on my strong ties.

Apart from the common component, the results showed that the rest of the factor structures of the UK and HK samples differed. Using the present set of cultural measures of Self-Direction, Independence, Conformity and Interdependence, HK business executives seemed to have attitudes falling into two components, representing individualistic and collectivistic attitudes. However, HK participants slightly to moderately agreed their Interdependence HK values (mean = 1.60,  $SD = 1.54$ ) while they were neutral to slightly agreed their individualism values (the common factor) (mean = 0.45,  $SD = 1.87$ ). Co-existence of individualism and collectivism (Triandis et al. 1990) among HK business executives cannot be

concluded. Furthermore, UK business executives displayed one cultural component, comprised of items referring to individualistic attitudes. No components relating to collectivistic attitudes were extracted.

Testing of significant differences between the UK and HK common cultural factors will be presented in Section 7.2.3.1.

Table 7.3 The Factor Structures of the Individualism and Collectivism in the UK, HK and the Combined Data (Method of Analyses – All 19 items were analysed as a group)

Component	UK		HK			Combined Data		
	1 $\alpha = 0.61$ <i>Unchanged</i> <i>Factor</i>	2 $\alpha = 0.68$ <i>Unchanged</i>	1 $\alpha = 0.52$	2 $\alpha = 0.68$ <i>Unchanged</i>	3 $\alpha = 0.61$ <i>Unchanged</i>	1 $\alpha = 0.63$ <i>Unchanged</i>	2 $\alpha = 0.63$ <i>Unchanged</i>	3 $\alpha = 0.55$
<u>Individualism</u>								
Independence 2							.74	
Independence 3								
Independence 4		.81						
Self-Direction 1	.77				.83	.79		
Self-Direction 2	.78				.75	.78		
Self-Direction 3	.51							
Self-Direction 4		.83	.71		.51		.78	
Self-Direction 5								
<u>Collectivism</u>								
Interdependence 2								.51
Interdependence 3				.83				.76
Interdependence 4				.84				.42
Interdependence 6			.73					.40
Interdependence 7			.60					.46
Conformity 1								
Eigenvalue	2.7	2.1	2.4	2.3	1.9	2.8	2.1	1.5
% of variance explained	14.3%	10.8%	12.9%	12.1%	9.9%	14.6%	11.1%	8.1%
Scree-Plot in Appendix C	C.2	C.2	C.3	C.3	C.3	C.4	C.4	C.4

Table 7.4 The Factor Structures of the Individualism and Collectivism in the UK, HK and the Combined Data (Method of Analyses – The individualism and collectivism items were analysed as two separate groups)

Component	UK		HK			Combined Data			
	1	2	1	2	3	4	1	2	3
	$\alpha = 0.61$ <i>Unchanged</i>	$\alpha = 0.68$ <i>Unchanged</i>	$\alpha = 0.61$ <i>Unchanged</i>	$\alpha = 0.54$	$\alpha = 0.56$	$\alpha = 0.68$ <i>Unchanged</i>	$\alpha = 0.63$ <i>Unchanged</i>	$\alpha = 0.63$ <i>Unchanged</i>	$\alpha = 0.57$
<u>Individualism</u>									
Independence 2			.77	.58	.81				
Independence 3			.80	.79				.80	
Independence 4	.79	.76					.79		
Self-Direction 1	.80		.80				.78		
Self-Direction 2	.52			.71					
Self-Direction 3					.80			.77	
Self-Direction 4		.85	.62		Common Factor			Common Factor	
Self-Direction 5		Common Factor							
<u>Collectivism</u>									
Interdependence 2									.58
Interdependence 3						.86			
Interdependence 4						.83			
Interdependence 6									.64
Interdependence 7									.62
Conformity 3									.60
Eigenvalue	2.3	1.5	2.2	1.5	1.3	1.6	2.0	1.6	2.3
% of variance explained	25.8%	16.3%	24.0%	16.9%	13.9%	15.7%	22.7%	18.1%	22.9%
Scree-Plot in Appendix C	C.5	C.5	C.6	C.6	C.6	C.7	C.8	C.8	C.9

Table 7.5 Correlation Matrix of all the Measured Variables of Individualism and Collectivism in the UK Sample (N = 109)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>Individualism</b>																		
1. Independence item 1	.23*																	
2. Independence item 2	.09	.14																
3. Independence item 3	.14	.23*	.16															
4. Independence item 4	.23*	.22*	-.07	.21*														
5. Self Direction item 1	.18	.25*	.10	.18	.45***													
6. Self Direction item 2	.18	.03	.19*	.36***	.20*	.37***												
7. Self Direction item 3	.019	.061	.20*	.52***	-.07	-.02	.15											
8. Self Direction item 4	-.12	-.26**	-.04	-.05	.004	.01	-.06	-.04										
9. Self Direction item 5																		
<b>Collectivism</b>																		
10. Interdependence item 1	-.05	.04	.03	.13	.09	-.05	.13	.08	-.23*									
11. Interdependence item 2	.10	-.03	.06	.18	-.16	-.12	.15	.20*	-.18	-.03								
12. Interdependence item 3	-.04	-.15	-.14	-.03	-.03	-.08	.10	.04	-.07	.18	.29**							
13. Interdependence item 4	.22*	-.003	.22*	-.10	.02	.18	-.04	-.07	.10	-.09	.14	-.03						
14. Interdependence item 5	.25**	.20*	-.10	-.07	.04	-.02	-.12	.04	-.14	.18	.18	.05	.11					
15. Interdependence item 6	.04	.01	-.06	.16	-.02	.01	-.01	.09	-.09	.08	.09	.24*	-.04	.005				
16. Interdependence item 7	.003	.005	.07	.18	.03	.24*	.14	.10	-.19*	.11	.26**	.27**	-.07	.03	.23*			
17. Conformity item 1	.13	.006	.12	.12	-.08	-.05	.11	.29**	-.06	.09	.33**	.12	.19*	.15	.06	.16		
18. Conformity item 2	.06	.03	.02	-.01	.16	.15	.05	-.06	.07	.04	-.09	-.05	-.05	.14	-.12	.10	.21*	
19. Conformity item 3	.01	.14	.08	.14	-.14	.06	.06	.24*	.08	-.05	.13	-.02	.23*	.03	-.04	.13	.34***	.04

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (2-tailed).

Table 7.6 Correlation Matrix of all the Measured Variables of Individualism and Collectivism in the HK Sample (N = 109)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>Individualism</b>																		
1. Independence item 1	.10																	
2. Independence item 2	.18	.27**																
3. Independence item 3	.20*	.05	.20*															
4. Independence item 4	.14	.12	.08	-.07														
5. Self Direction item 1	.11	.14	-.08	-.04	.43***													
6. Self Direction item 2	.24*	.21*	.36***	.15	.13	.15												
7. Self Direction item 3	.11	.10	.03	.39***	.006	.01	.01											
8. Self Direction item 4	.12	.06	.06	.18	.32**	.27**	.21*	.13										
9. Self Direction item 5																		
<b>Collectivism</b>																		
10. Interdependence item 1	.20*	.20*	-.07	-.10	-.01	.05	-.04	.02	-.14									
11. Interdependence item 2	.19	.04	-.11	-.02	-.10	.14	.006	.05	.13	.30**								
12. Interdependence item 3	.06	-.002	-.17	-.18	-.17	-.08	.01	-.09	.005	.08	.11							
13. Interdependence item 4	.04	-.10	-.16	-.11	-.07	-.12	-.02	.12	-.06	.02	.11	.52***						
14. Interdependence item 5	-.05	-.003	-.04	-.004	-.04	.11	-.07	-.01	.02	-.04	.35***	.22*	.19					
15. Interdependence item 6	-.05	-.07	-.08	.12	.13	-.08	-.05	.27**	.06	.02	.05	-.001	.16	.20*				
16. Interdependence item 7	.002	-.04	.23*	.17	-.03	-.05	.12	.07	-.11	-.12	-.12	.09	.32**	.17	.08			
	.10	-.13	.12	.09	.09	-.13	.08	.32**	.02	-.14	-.02	-.01	.19	.25*	.22*	.26*		
17. Conformity item 1	.11	.23*	.07	.02	.15	.10	.24*	.05	-.06	.16	-.04	.04	-.04	-.01	-.20*	.08	-.09	
18. Conformity item 2	.21*	.01	.028	.25*	-.05	-.10	.15	.28**	-.10	.05	.23*	.11	.30**	.18	.02	.07	.23*	.38***
19. Conformity item 3																		

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (2-tailed).

### 7.2.2 Confirmatory Factor Analyses of Trust Values

There were two sets of confirmatory factor analyses. First, the procedure was used to verify the theoretical framework proposed in the preceding chapter. The hypothesised factor structures of the UK and HK samples were each evaluated by structural equation modeling using AMOS employing the maximum likelihood estimation method (see Figure 7.1 and 7.2). Second, the domain of IBT was examined specifically for the UK. Confirmatory factor analysis was therefore conducted on a hypothesised factor structure (see Figure 7.3) that included the domains of Discretionary Trust and Ethical Trust.

Tables 7.7 and 7.8 show the correlation coefficients between all measured variables in each sample that were utilised in the structural equation modeling.

According to the thesis hypotheses, the proposed factor structure for the UK sample in Figure 7.1 did not include Reciprocation Trust. Similarly, the proposed structure for HK in Figure 7.2 did not include Ethical Trust. In the procedure of the confirmatory factor analyses, these excluded domains were included in the CFA, but inclusion of the excluded domains resulted in unsatisfactory model fit. As predicted, Reciprocation Trust did not emerge in the analyses in the UK, and Ethical Trust did not emerge in the HK structure. Further, all three hypothesised models were unrefined models. They were re-specified by deleting some variables in order to obtain model fit to the data sets. The final results yielded an acceptable model for the UK sample, and another model for the HK sample. The results of the analyses in each sample are presented in the following sections.

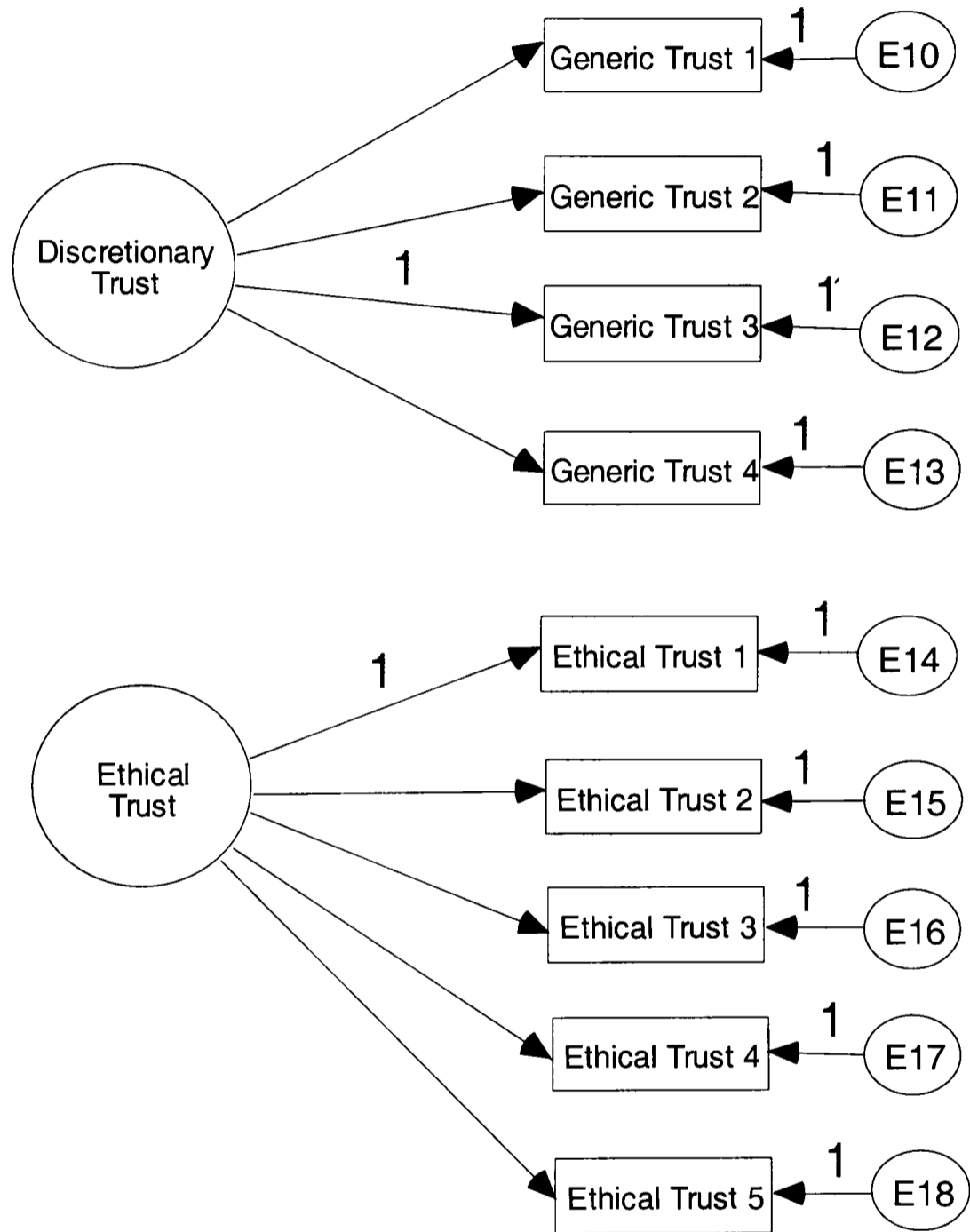


Figure 7.1 The Hypothesised Model of Trust Domains in the UK Sample

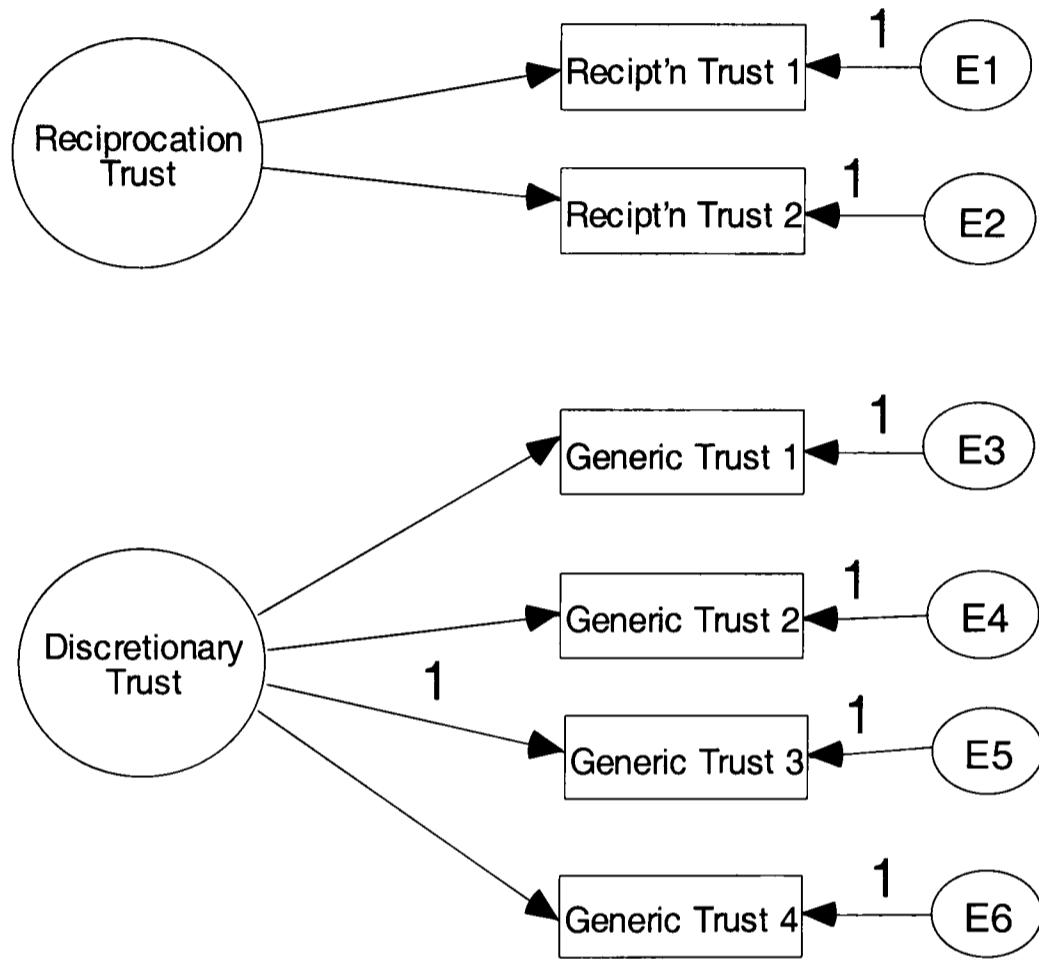


Figure 7.2 The Hypothesised Model of Trust Factors in the HK Sample

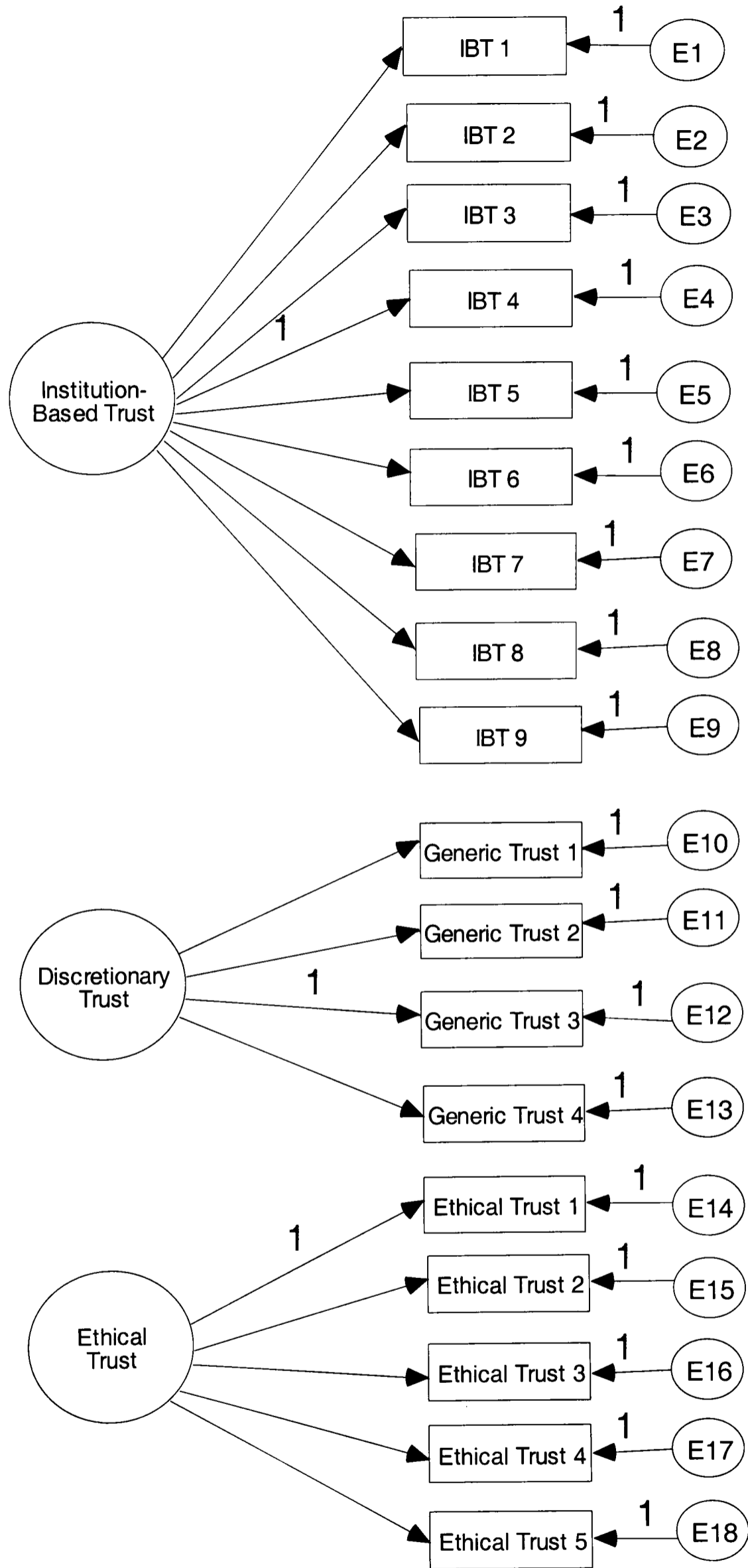


Figure 7.3 The Hypothesised Model of Trust Factors in the UK Sample

Table 7.7 Correlation Matrix of all Measured Variables of Trust Values in the UK Sample (N = 109)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Reciprocal trust item 1 #	.11																		
2. Reciprocal trust item 2	-.07	-.05																	
3. IBT item 1	-.09	.15	.48***																
4. IBT item 2	-.12	-.04	.23*	.50***															
5. IBT item 3	-.17	.01	.21*	.51***	.49***														
6. IBT item 4	-.02	-.003	-.09	.02	-.05	-.04													
7. IBT item 5	-.15	-.02	.11	.38***	.29*	.60***	.12												
8. IBT item 6	.09	.18	-.14	-.09	-.003	-.13	.06	-.19*											
9. IBT item 7	.11	.19*	.10	.15	.26**	.13	-.01	.11	.01										
10. IBT item 8	.02	-.01	.09	.26**	.36***	.25**	-.17	.28**	-.010	.22*									
11. IBT item 9																			
12. Discretionary trust 1	-.04	.03	-.05	-.18	.06	.07	.18	.08	.03	.11	.03								
13. Discretionary trust 2	-.08	.07	.12	.04	-.06	.04	.17	.31**	.02	.10	.01	.15							
14. Discretionary trust 3	-.07	.25**	-.04	.09	.01	.12	.14	.20*	.08	.23*	-.03	.44***	.47***						
15. Discretionary trust 4	.01	.15	.24*	.21*	.25	.22*	-.04	.27**	.03	.02	.18	.24*	.30**	.17					
16. Ethical trust item 1	.15	-.03	-.07	-.10	.002	-.07	-.09	-.06	-.05	.12	.08	.03	.08	.23*	-.16				
17. Ethical trust item 2	-.16	.13	.13	.14	.24*	-.11	-.09	-.16	.08	.15	.14	.06	.01	.07	.07	.24*			
18. Ethical trust item 3	-.07	.07	-.02	.24*	.04	.02	-.07	.14	.01	.14	.04	-.07	.06	.18	-.01	.31**	.15		
19. Ethical trust item 4 #	-.16	-.21*	.16	-.001	.17	.15	.14	.05	-.14	-.03	.13	.18	-.004	-.13	.12	-.31**	.12	-.26**	
20. Ethical trust item 5 #	-.08	.01	.13	.17	.07	.15	.10	-.001	-.03	.04	-.10	-.02	-.05	-.07	-.04	-.31**	-.21*	-.24*	.30**

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (2-tailed).

# reverse score.

Table 7.8 Correlation Matrix of all Measured Variables of Trust Values in the HK Sample (N = 103)

	1	2	3	4	5	6	7	8	9	10
1. Reciprocation trust item 1#										
2. Reciprocation trust item 2	.18									
3. Discretionary trust item 1	.05	.09								
4. Discretionary trust item 2	-.07	.15	.33**							
5. Discretionary trust item 3	.04	.17	.47***	.36***						
6. Discretionary trust item 4	.13	.18	.41***	.13	.35***					
7. Ethical trust item 1	-.01	.08	-.14	.06	.03	-.26**				
8. Ethical trust item 2	-.29**	-.11	-.03	.11	-.11	-.19	.07			
9. Ethical trust item 3	-.11	.18	-.09	.12	-.04	-.22*	.13	.33**		
10. Ethical trust item 4	.01	-.07	.34**	-.12	.15	.30**	-.32**	-.04	-.17	
11. Ethical trust item 5	.28**	-.01	.06	-.06	.02	.03	-.04	-.24*	-.18	.34***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (2-tailed).

# reverse score

## 7.2.2.1 The Trust Domains of the UK Sample for Direct Comparison with HK

Figure 7.4 shows the estimated model of trust values among UK business executives that contained two factors. They were Discretionary Trust and Ethical Trust with Cronbach alpha of 0.62 and 0.61 respectively. The estimated model adequately fitted the sample data. For the purpose of direct comparison between UK and HK, the estimated model confirmed the proposed structure of trust values among UK business executives. However, when the items of IBT were included in the confirmatory factor analysis in the UK sample, different results were found. This will be presented in Section 7.2.2.3.

The model had a non-significant  $\chi^2 (19) = 26.24, p = 0.12, \chi^2/d.f. = 1.38$ , Goodness of Fit Index (GFI) = 0.95, Normed Fit Index (NFI) = 0.80, Comparative Fit Index (CFI) = 0.93, Tucker-Lewis Index (TLI) = 0.96, root mean square error of approximation (RMSEA) = 0.059 (the lower bound was 0.000 and the upper bound was 0.110 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.07. The relevant AMOS outputs are presented in Appendix C as C.10 and Figure C.11.

Mardia's (1970) coefficient of multivariate kurtosis for the estimated model was 12.79 with a critical ratio of 5.28 (see Appendix C.12). The data set had slight multivariate non-normality mainly caused by one outlier. The bootstrap procedure changed three significant paths from  $p < 0.01$  to  $p < 0.05$ , and one significant to non-significant in the model fit.

### Ethical Trust

Four items had loadings of greater than 0.46 on the Ethical Trust factor. The factor explained 38% of the variance associated with “I can do business with people who are not totally honest, so long as I put safeguards in place”, 30% of the variance associated with, “I can tolerate doing business with others who use unconventional approaches”(reverse score), and 25% of the variance associated with, "I can tolerate negative qualities, which I perceive in others, if it brings financial success", making these three items the most central to this construct.

### Discretionary Trust

Four items had loadings of greater than 0.51 on the Discretionary Trust factor.

Although the item: “I trust people with whom I have shared the experience of solving business problems”, was accounted for by two factors, both Discretionary and Ethical Trust factors, this item was the most central item to the construct of Discretionary Trust.

Further, the trust value of “When conducting average size or more major business, it is important for me to do business with people I believe to be honest” was non-significant after bootstrapping. Perhaps, this does not relate to a significant trust value in the domain of Discretionary Trust.

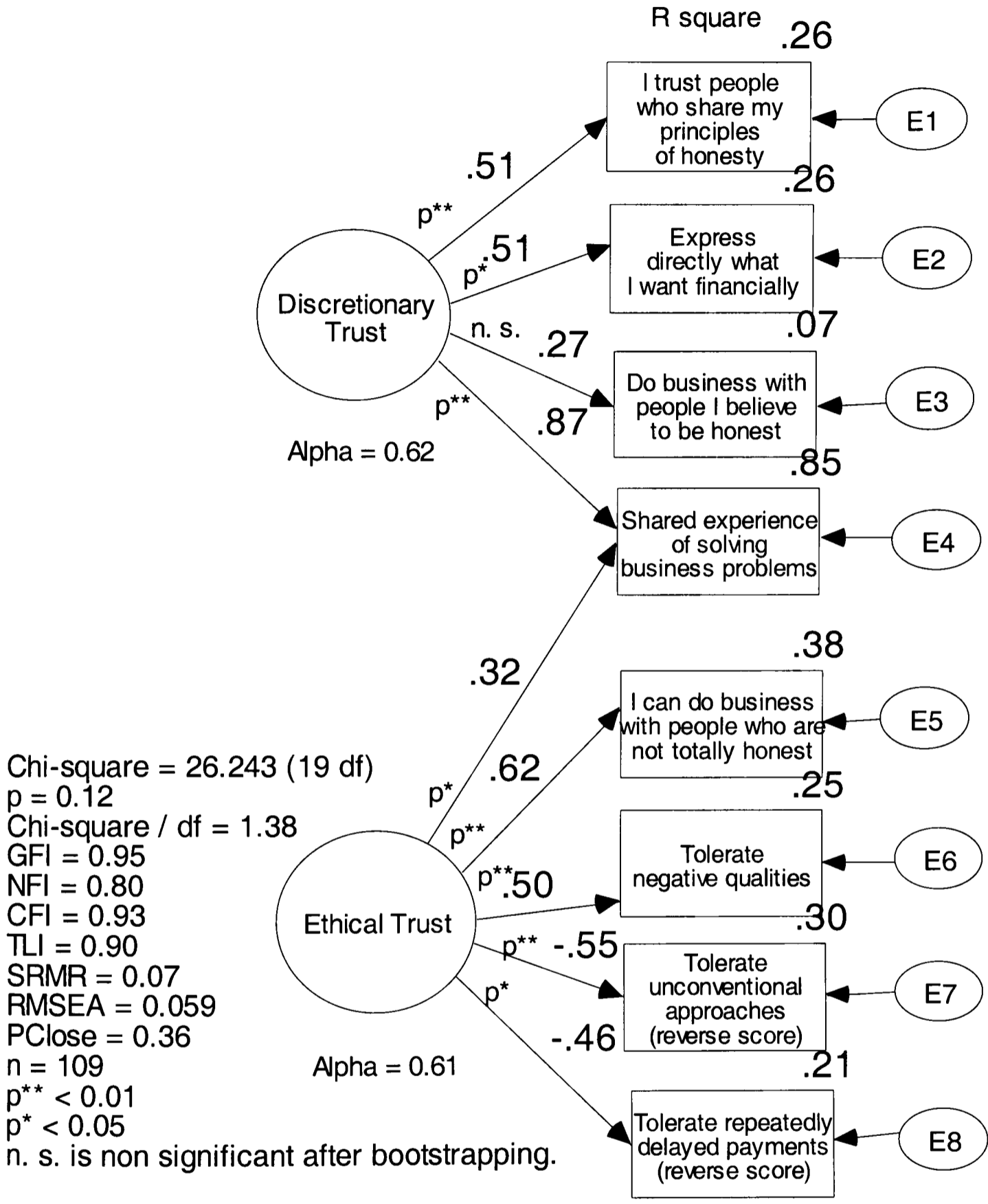


Figure 7.4 Discretionary Trust and Ethical Trust Factors  
 UK Business Executives

## 7.2.2.2 The Trust Domain of the HK Sample for Direct Comparison with UK

Figure 7.5 shows the estimated model of trust values among HK business executives containing one trust factor, Discretionary Trust with Cronbach alpha of 0.66. The estimated model adequately fitted the sample data. The estimated model of Discretionary Trust did not confirm the proposed structure of trust values among HK business executives. It was found that the items of Reciprocation Trust did not map onto a single underlying factor.

The model had a non-significant  $\chi^2 (2) = 3.15, p = 0.21, \chi^2/d.f. = 1.58$ , Goodness of Fit Index (GFI) = 0.99, Normed Fit Index (NFI) = 0.95, Comparative Fit Index (CFI) = 0.98, Tucker-Lewis Index (TLI) = 0.94, root mean square error of approximation (RMSEA) = 0.075 (the lower bound was 0.000 and the upper bound was 0.224 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.04. The relevant AMOS outputs are presented in Appendix C as C.13 and C.14.

Mardia's (1970) coefficient of multivariate kurtosis for the estimated model was 17.48 with a critical ratio of 12.81 (see Appendix C.15). The data set had slight multivariate non-normality mainly caused by three outliers. The bootstrap procedure changed two significant paths from  $p < 0.001$  to  $p < 0.05$ , and one significant path to non-significant in the model fit.

## Discretionary Trust

The same four items concerning Discretionary Trust in the UK sample were extracted in the HK sample. The factor explained 52% of the variance associated with “I trust people who share my principles of honesty”, and 46% of the variance associated with “I trust people with whom I have shared the experience of solving business problems”, making these two items the most central to this construct.

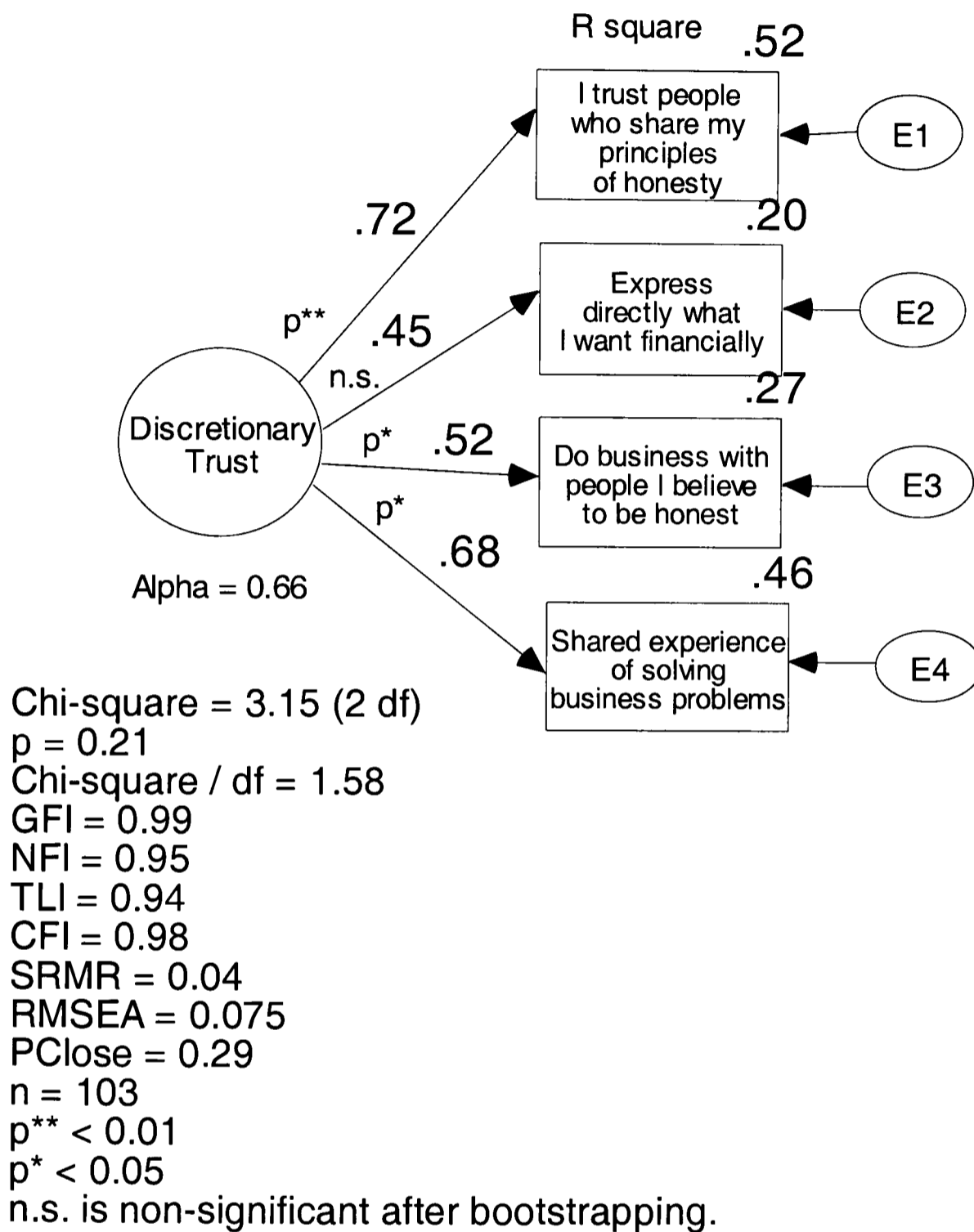


Figure 7.5 Discretionary Trust Factor - Hong Kong Business Executives

### 7.2.2.3 Inclusion of Institution-based Trust in the UK Sample

The UK model presented above was intended for direct comparison with HK.

However, items relating to IBT were also included only for the UK sample, a separate CFA was also conducted incorporating these.

When the items of IBT were included in the confirmatory factor analysis of Discretionary Trust and Ethical Trust, two estimated models were found. Figure 7.6 shows the first estimated model of trust values among UK business executives that contained two factors, IBT and Ethical Trust, with Cronbach alphas of 0.77 and 0.61 respectively. This estimated model had a moderate fit to the sample data. The second estimated model contained Discretionary Trust and Ethical Trust. This was the same model (Figure 7.4) found in the earlier analysis in Section 7.2.2.1.

An obvious question that arises in connection with these results concerns why the estimated models did not incorporate all these factors simultaneously. One possible reason may be criteria of parsimony in structural equation modelling. Nevertheless, the three uncorrelated domains: IBT, Discretionary Trust and Ethical Trust, emerged in the UK sample after IBT was included.

The estimated model with IBT in Figure 8.13 had a non-significant  $\chi^2 (19) = 29.72, p = 0.06, \chi^2/d.f. = 1.56$ , Goodness of Fit Index (GFI) = 0.94, Normed Fit Index (NFI) = 0.85, Comparative Fit Index (CFI) = 0.94, Tucker-Lewis Index (TLI) = 0.91, root mean square error of approximation (RMSEA) = 0.072 (the lower bound was 0.000 and the upper bound was 0.120 at 90% confidence interval), and standardised root

mean square residual (SRMR) = 0.08. The relevant AMOS outputs are presented in Appendix C as C.16 and C.17.

Mardia's (1970) coefficient of multivariate kurtosis of the estimated model was 8.70 with a critical ratio of 3.60 (see Appendix C.18). The data set had very slight multivariate non-normality. The bootstrap procedure changed two significant paths from  $p < 0.01$  to  $p < 0.05$  in the model fit.

### Institution-Based Trust

Four items had loadings of greater than 0.52 on the IBT factor. 89% of the variance associated with "I think that business people in our society abide by the terms set out in their contracts", and 40% of the variance associated with "I think that business people in our country generally obey the law" were accounted for by IBT, making these two items the most central to this construct.

Table 7.9 shows the means and standard deviations of the variables in the domains in each sample.

Independent t-tests will be presented in the following section in order to test for significant differences of the common cultural factor and Discretionary Trust between the UK and HK samples.

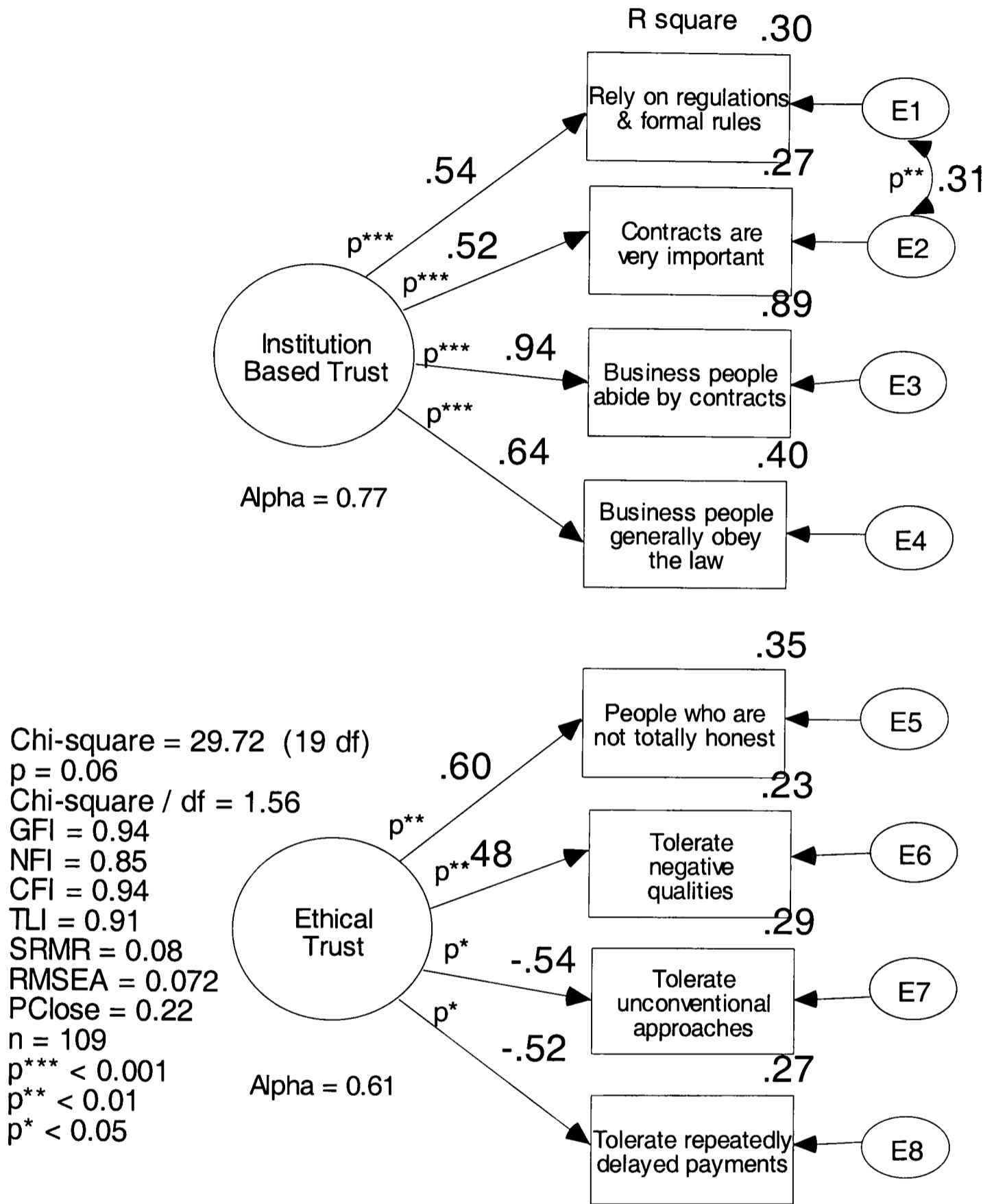


Figure 7.6 Institution Based Trust and Ethical Trust Factors  
UK Business Executives

Table 7.9 Means and Standard Deviations of the Variables of the Trust Factors in the UK and HK Samples

	UK Sample (N = 109)	HK Sample (N = 103)
<b>Institution-Based Trust</b>		
In our society, we rely on legal regulations and formal rules to provide a secure environment for business dealings.	.95 (2.15)	-
In our society, contracts are very important.	1.55 (1.88)	-
I think that business people in our society abide by the terms set out in their contracts.	.85 (1.85)	-
I think that business people in our country generally obey the law.	1.61 (1.76)	-
<b>Discretionary Trust</b>		
I trust people who share my principles of honesty.	2.94 (.96)	2.59 (1.35)
When doing business with people whom I know well, it is socially acceptable to express directly what I want financially.	2.29 (1.55)	1.74 (1.69)
When conducting average size or more major business, it is important for me to do business with people I believe to be honest.	2.75 (1.07)	2.52 (1.51)
I trust people with whom I have shared the experience of solving business problems.	2.39 (1.19)	1.99 (1.59)
<b>Ethical Trust</b>		
I can do business with people who are not totally honest, so long as I put safeguards in place.	.17 (2.33)	-
I can tolerate negative qualities, which I perceive in others, if it brings financial success.	1.04 (1.88)	-
I can tolerate doing business with others who use unconventional approaches (such as creative accounting, cutting corners, etc.). (reverse score)	.73 (2.16)	-
I can tolerate regular clients who repeatedly delay payments. (reverse score)	1.06 (2.31)	-

Note: Numbers in parentheses are standard deviations.

The responses were on a nine-point scale, anchored by “completely disagree” (-4), “strongly disagree” (-3), “moderately disagree” (-2), “slightly disagree” (-1), “neutral/undecided” (0), “slightly agree” (+1), “moderately agree” (+2), “completely agree” (+3), and “completely agree” (+4).

### 7.2.3 Independent t-Tests of the Common Cultural Factor and Discretionary Trust

Since the same underlying variables loaded on their relevant common factors of independence and Discretionary Trust, independent samples t-tests were conducted in order to determine whether the means of each set of items differed between the UK and HK samples.

#### 7.2.3.1 The Common Cultural Factor

It was found that the common cultural factor of independence was significantly higher among HK business executives (mean = 0.45,  $SD = 1.87$ ) than their UK counterparts (mean = -0.27,  $SD = 1.98$ ,  $t = -2.71$ ,  $df = 210$ ,  $p < 0.01$ ). Thus, HK business executives were significantly more individualistic than their UK counterparts. Discriminant analysis further revealed that 62.7% of the cases were correctly classified by the discriminant function. The structural matrix of discriminant analysis of the two items loaded on the factor further revealed that Self-Direction item 4 had a higher loading factor (0.98) than that of Independence item 4 (0.29). i.e., the item: “I would rather struggle through a personal problem by myself than discuss it with friends” rather than the item: “I tend to handle business problems or worries by myself instead of sharing them with anyone else” contributed most to the group separation. Means of the two variables are shown in Table 7.10. Implications of the finding will be discussed later in the chapter.

Table 7.10 Means of the Two Variables of the Common Cultural Factor

	UK or HK group	Mean	Std. Deviation
Independent item 4 - I tend to handle business problems or worries by myself instead of sharing them with anyone else	UK	.14	2.24
	HK	.46	2.24
Self Direction item 4 – I would rather struggle through a personal problem by myself than discuss it with friends	UK	-.68	2.32
	HK	.44	2.24

### 7.2.3.2 Discretionary Trust

Scores on the Discretionary Trust scale were significantly higher among UK business executives (mean = 2.59,  $SD = 0.83$ ) than the HK counterparts (mean = 2.21,  $SD = 1.09$ ,  $t = 2.88$ ,  $df = 210$ ,  $p < 0.01$ ). This finding was in contradiction to the prediction of similar scores of Discretionary Trust in both groups. Although there was a significant difference, the overall effect size was not very large ( $d = 0.39$ ).

Implications of the finding will be discussed later in the chapter.

### 7.2.4 Tests of Association Between Individualism-Independence and Discretionary Trust

Association between Discretionary Trust and the components of Self-Direction and Independence derived in section 7.2.1 in each sample was tested in structural equation modelling using AMOS. This method was used instead of performing a correlation test using the means of the averaged sum scores of each factor. This was because

structural equation modeling can simultaneously test for association between factors that consist of underlying variables.

It was found that Discretionary Trust correlated with Independence HK (Component 2 in Table 7.4) ( $r = 0.56, p < 0.001$ ) in the HK sample. However, Discretionary Trust was uncorrelated with Self-Direction UK (Component 1 in Table 7.4) in the UK sample. The chi-square test statistics and the fit indices are summarised below.

Figure 7.7 shows the model of non-significant correlation between Discretionary Trust and Self-Direction among UK business executives. The estimated model adequately fitted the sample data. The model had a non-significant  $\chi^2 (13) = 16.96, p = 0.20, \chi^2 / \text{d.f.} = 1.31$ , Goodness of Fit Index (GFI) = 0.96, Normed Fit Index (NFI) = 0.85, Comparative Fit Index (CFI) = 0.96, Tucker-Lewis Index (TLI) = 0.93, root mean square error of approximation (RMSEA) = 0.053 (the lower bound was 0.000 and the upper bound was 0.116 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.06 The relevant AMOS outputs are presented in Appendix C as C.19 and C.20.

Mardia's (1970) coefficient of multivariate kurtosis for the estimated model was 13.97 with a critical ratio of 6.50 (see Appendix C.21). The data set had slight multivariate non-normality mainly caused by two outliers. The bootstrap procedure changed one significant path from  $p < 0.01$  to  $p < 0.05$ , and three significant paths to non-significant in the model fit.

Figure 7.8 shows the model of significant correlation between Discretionary Trust and Independence among HK business executives. The estimated model almost exactly fitted the sample data. This is because the model's non-significant  $\chi^2$  (13) = 10.94 ( $p = 0.62$ ) was less than the degree of freedom, and RMSEA was less than 0.0009 (the lower bound was 0.000 and the upper bound was 0.084 at 90% confidence interval). Other fit statistics were  $\chi^2$ /d.f. = 0.84, Goodness of Fit Index (GFI) = 0.97, Normed Fit Index (NFI) = 0.90, Comparative Fit Index (CFI) = 1.00, Tucker-Lewis Index (TLI) = 1.04<sup>5</sup>, and standardised root mean square residual (SRMR) = 0.05. The relevant AMOS outputs are presented in Appendix C as C.22 and Figure C.23.

Mardia's (1970) coefficient of multivariate kurtosis for the estimated model was 28.94 a critical ratio of 13.08 (see Appendix C.24). The data set had slight to moderate multivariate non-normality mainly caused by four outliers. The bootstrap procedure changed three significant paths from  $p < 0.001$  to  $p < 0.05$ , one significant path from  $p < 0.01$  to  $p < 0.05$ , and one significant path to non-significant in the model fit.

Independence HK correlated positively with Discretionary Trust. Interdependence HK (Component 4 in Table 7.4) was not correlated with Discretionary Trust. Thus, the findings of the association supported the prediction that this thesis posited for the HK sample.

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<sup>5</sup> TLI can be bigger than 1.00. This occurs when chi-square is less than the degree of freedom. It is called over-fitting.

Since components of collectivistic values were not extracted in the UK sample, tests of correlation between collectivistic values and Discretionary Trust could not be carried out. Nevertheless, the results supported the prediction that individualistic values did not correlate with Discretionary Trust in the UK sample.

### Additional Findings

In last chapter's section on culture and business ethics, it was suggested that the relationship between culture and ethical attitudes might depend on the ethical content being examined. Therefore, the relationship of Ethical Trust and Self-Direction UK was assessed. It was found that the two factors were not correlated.

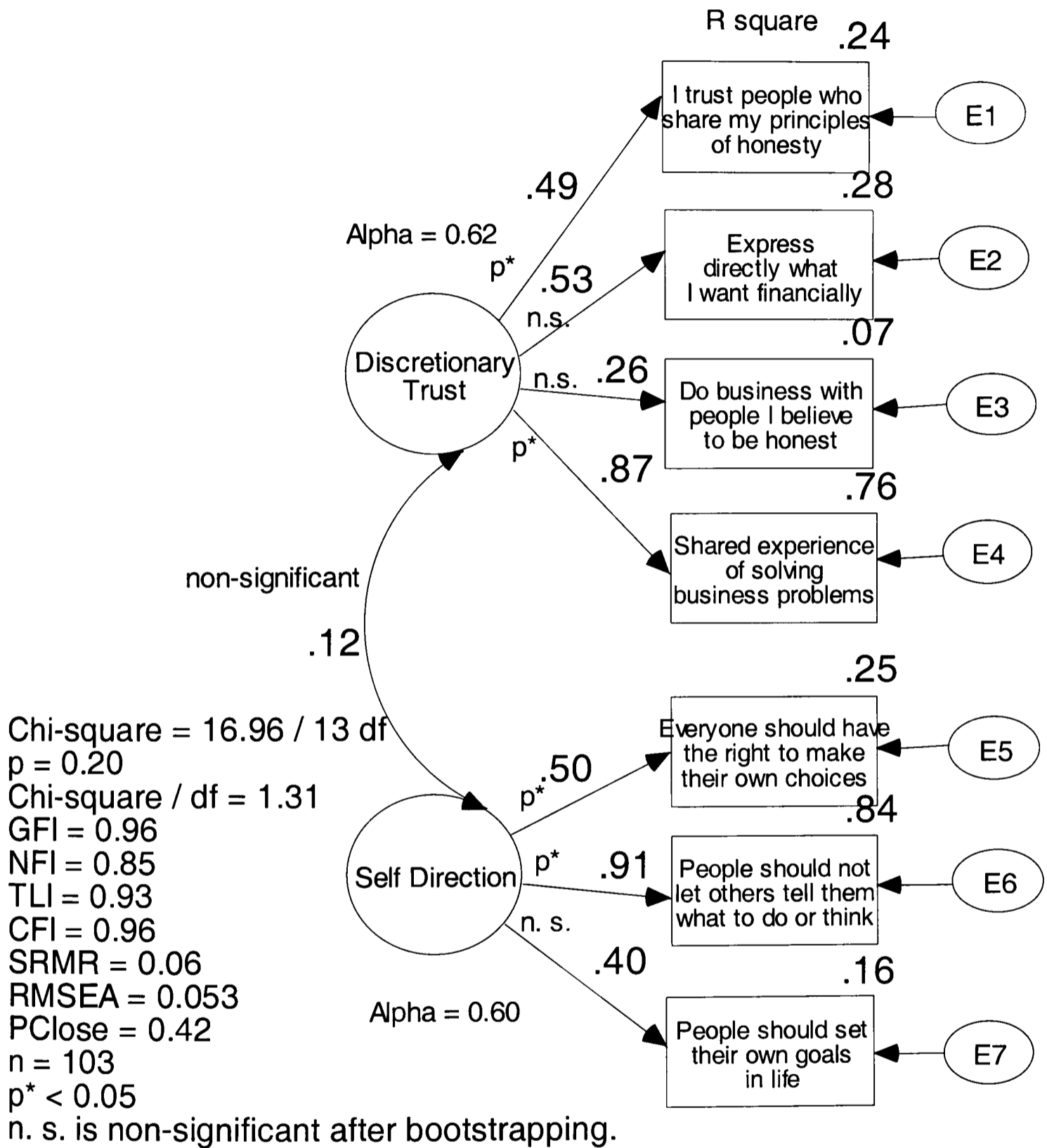


Figure 7.7 Non-significant Association between Discretionary Trust and Self-Direction - UK Business Executives

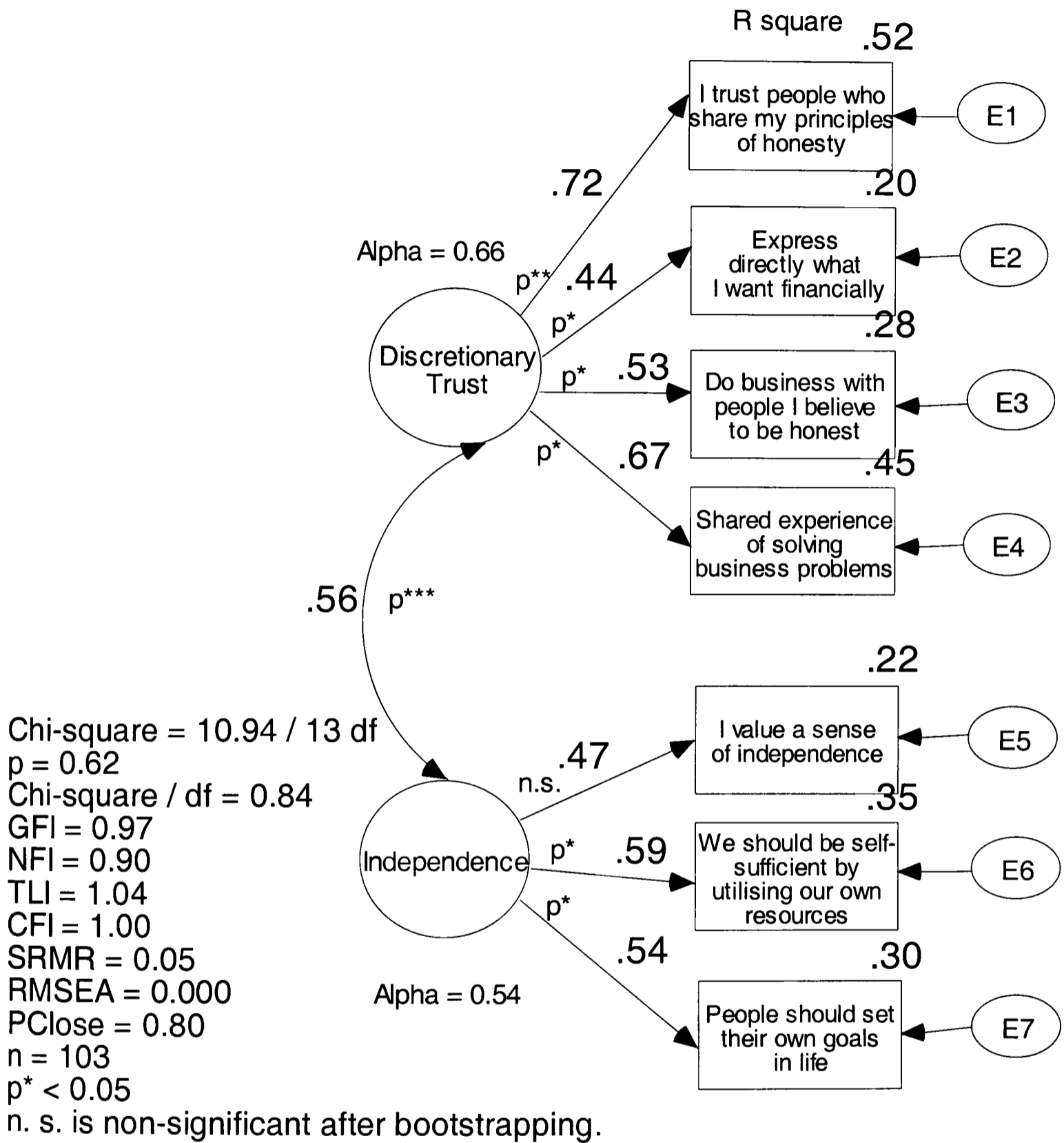


Figure 7.8 Significant Association between Discretionary Trust and Independence - HK Business Executives

## 7.2.5 Concurrent Validity of Discretionary Trust and Ethical Trust

Among the three domains of IBT, Discretionary Trust and Ethical Trust in the UK sample, concurrent validity of Discretionary Trust and Ethical Trust was assessed. (See Section 7.1.2.3 above for rationale and procedure). The results are outlined below.

Figure 7.9 shows the association between the construct consisting of two items: “I expect honesty from my strong ties”, and “I expect reliability from my strong ties”, and Discretionary Trust and Ethical Trust in the UK sample. The model had a non-significant  $\chi^2 (32) = 42.88, p = 0.10, \chi^2 / d.f. = 1.34$ , Goodness of Fit Index (GFI) = 0.93, Normed Fit Index (NFI) = 0.79, Comparative Fit Index (CFI) = 0.93, Tucker-Lewis Index (TLI) = 0.90, root mean square error of approximation (RMSEA) = 0.056 (the lower bound was 0.000 and the upper bound was 0.096 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.07. The relevant AMOS outputs are presented in Appendix C as C.25 and Figure C.26.

Mardia's (1970) coefficient of multivariate kurtosis for the estimated model was 19.31 a critical ratio of 6.51 (see Appendix C.27). The data set had very slight multivariate non-normality mainly caused by two outliers. The bootstrap procedure changed four significant paths from  $p < 0.001$  to  $p < 0.01$ , one significant path from  $p < 0.001$  to  $p < 0.05$ , and three significant paths from  $p < 0.01$  to  $p < 0.05$ .

Figure 7.10 shows the association between the construct consisting of two items: “I expect honesty from my weak ties”, and “I expect reliability from my weak ties”, and

Ethical Trust in the UK sample. The model had a non-significant  $\chi^2 (33) = 46.04, p = 0.10, \chi^2 / \text{d.f.} = 1.40$ , Goodness of Fit Index (GFI) = 0.93, Normed Fit Index (NFI) = 0.79, Comparative Fit Index (CFI) = 0.93, Tucker-Lewis Index (TLI) = 0.90, root mean square error of approximation (RMSEA) = 0.060 (the lower bound was 0.000 and the upper bound was 0.099 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.08. The relevant AMOS outputs are presented in Appendix C as Figure C.28 and Figure C.29.

Mardia's (1970) coefficient of multivariate kurtosis for the estimated model was 17.01 a critical ratio of 5.73 (see Appendix C.30). The data set had very slight multivariate non-normality mainly caused by one outlier. The bootstrap procedure changed three significant paths from  $p < 0.001$  to  $p < 0.01$ , two significant paths from  $p < 0.01$  to  $p < 0.05$ , two significant paths to near non-significant at  $p = 0.052$  and one significant path to non-significant in the model fit.

Overall, the model in Figure 7.9 adequately fit the sample data, but the model in Figure 7.10 moderately fit the sample data. The construct consisting of the items: "I expect honesty from my strong ties", and "I expect reliability from my strong ties" was positively correlated with Discretionary Trust ( $r = 0.36, p < 0.01$ ), and negatively correlated with Ethical Trust ( $r = -0.55, p < 0.001$ ). Similarly, the construct consisting of the items: "I expect honesty from my weak ties", and "I expect reliability from my weak ties" was also negatively correlated with Ethical Trust ( $r = -0.37, p < 0.05$ ). However, it did not correlate with Discretionary Trust. Therefore, Discretionary Trust was closely associated with the expectation that strong ties would be honest and

reliable. Ethical Trust was negatively associated with the expectation that both strong ties and weak ties would be honest and reliable.

Thus far, most of the results presented above confirmed predictions, except that the domain of Reciprocation Trust was not extracted in the HK sample. Discussion of the results is presented in the following section.

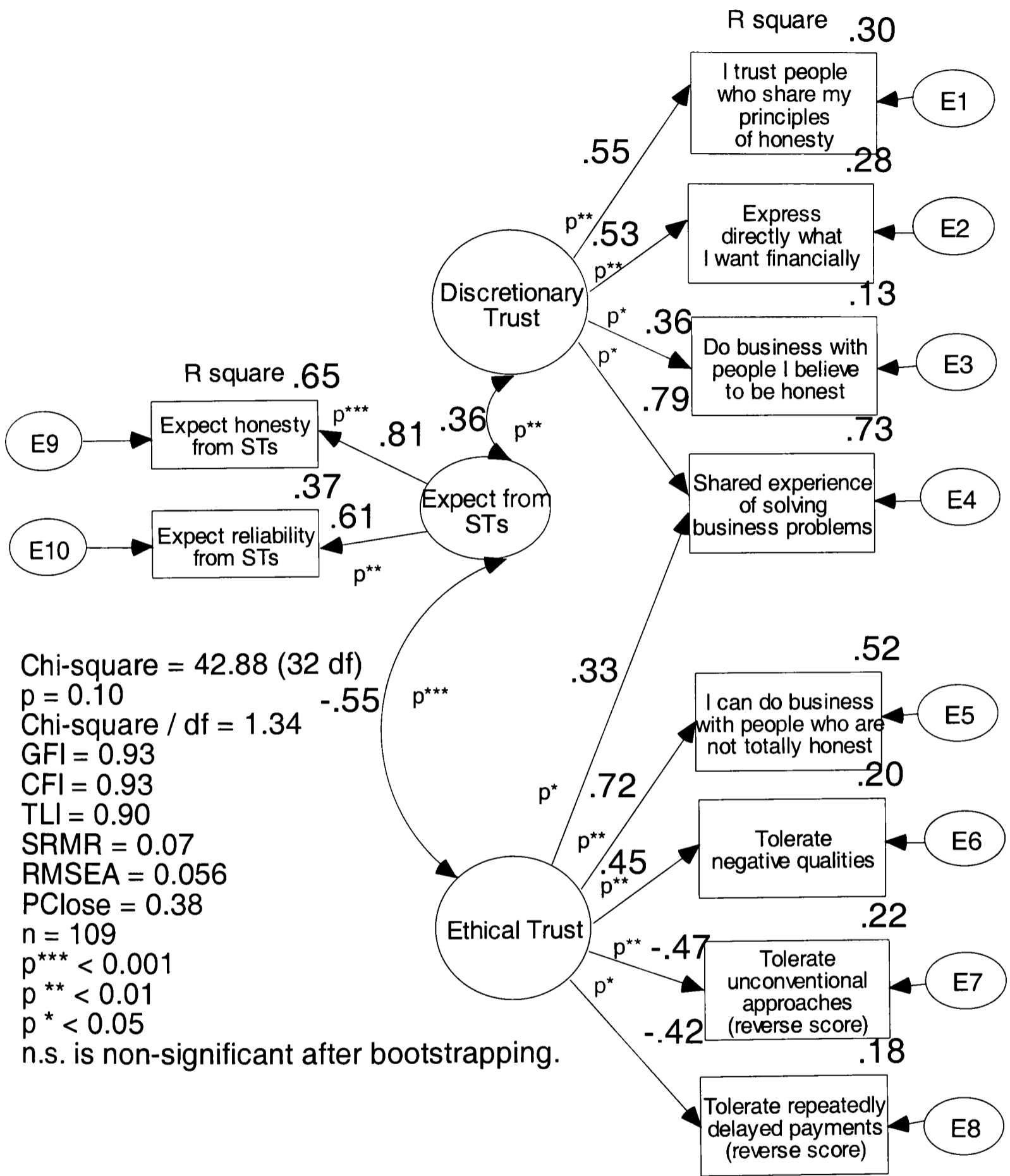


Figure 7.9 Concurrent Validity 1 of Discretionary Trust and Ethical Trust UK Business Executives

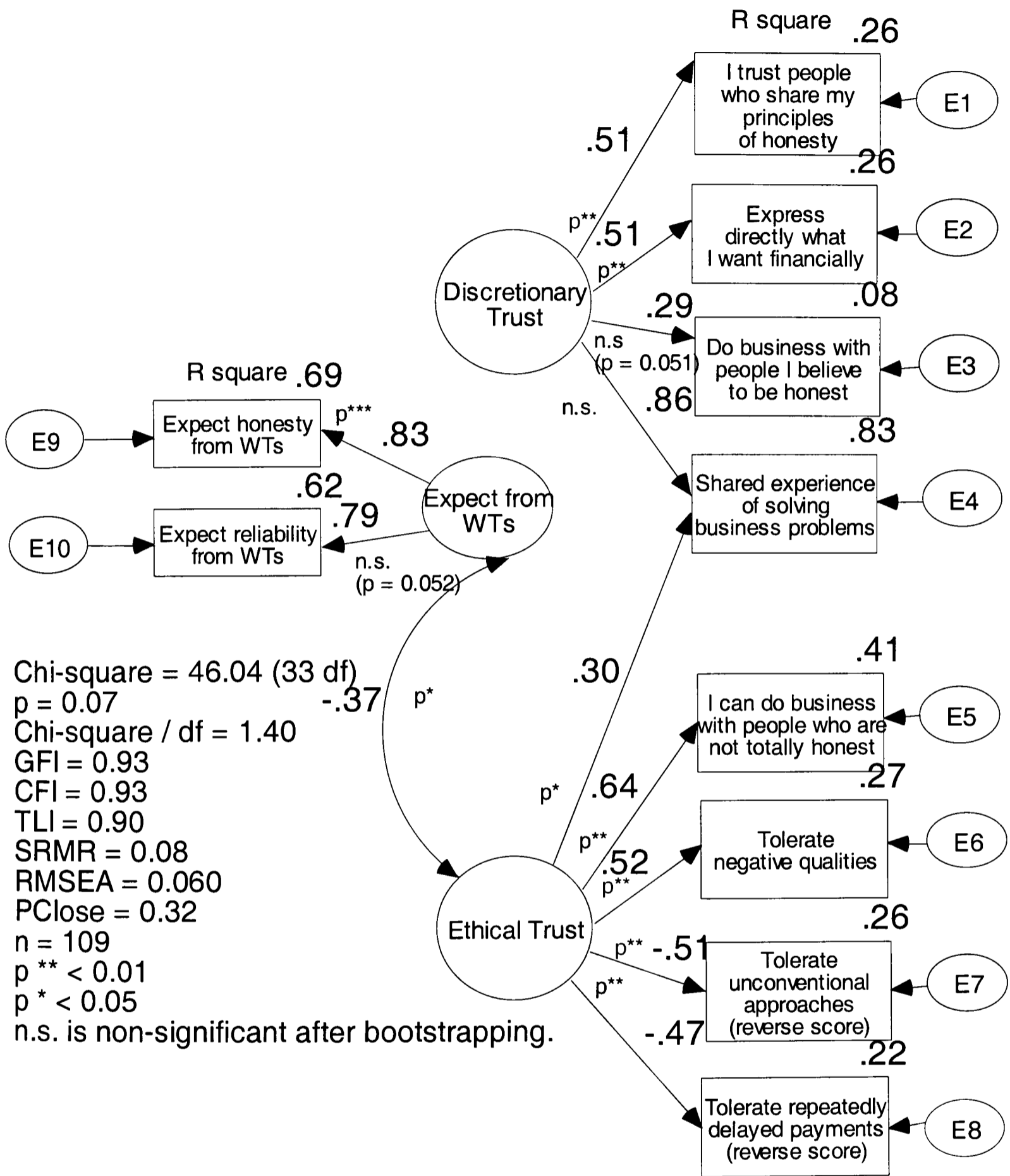


Figure 7.10 Concurrent Validity 2 of Discretionary Trust and Ethical Trust UK Business Executives

### 7.3 Discussion

This section begins with discussion of the findings in relation to the aims of the study. Limitations, construct validity, IBT in HK, effects of other cultural dimensions on the trust domains, theoretical and practical implications will then be discussed. Finally, future research directions are considered. Wider implications of the findings will be discussed in the final chapter.

#### **Discussion of the Results**

The study had three primary purposes: First, to develop a multidimensional business trust scale measuring factors that are specifically relevant to UK and HK business executives. Second, to compare trust values between UK and HK business executives. Third, to examine whether the cultural dimension of individualism-collectivism has any relationship to business trust values. In particular, the research assessed whether individualism is associated with Discretionary Trust among HK business executives in a collectivist culture.

Fulfilling the first of these purposes, a business trust scale assessing three different domains of IBT, Discretionary Trust and Ethical Trust was developed. Support for all three dimensions was provided by factor analysis of the UK data, but only Discretionary Trust emerged from factor analysis of the HK data. Because IBT items were not included in the HK questionnaire, the study provides no evidence concerning its relevance to this sample. Contrary to prediction, the dimension of Reciprocation Trust did not emerge from factor analysis of the HK data. One possible explanation is that the two items did not adequately measure the underlying trust values of

Reciprocation Trust. Future studies should further examine Reciprocation Trust, and explore whether IBT forms part of trust values among HK business executives. The rationale for IBT in HK will be discussed later in this section.

Tests of concurrent validity of Discretionary Trust and Ethical Trust scales confirmed that trust values of Discretionary Trust were highly correlated with expectation of strong ties being honest and reliable, but trust values of Ethical Trust were negatively correlated with these expectations of both strong ties and weak ties. This suggests that the more UK business executives had a tendency to be discerning in deciding whom to trust, the more they expected their strong ties to be honest and reliable. Moreover, the more they expected both strong and weak ties to be honest and reliable, the more reluctant they were to tolerate the unethical attitudes examined in the present study. In particular, UK business executives would be less willing to do business with people who are not totally honest, to tolerate negative qualities perceived in others, unconventional approaches, and repeatedly delayed payments.

Only individualism values were extracted in the UK group. Because of a lack of a common factor on the collectivism scale between the two groups, comparison of collectivism was not possible. Further, none of the collectivism items loaded on a single factor in the UK group. Perhaps the collectivist items did not correctly tap on the UK business executives. It is likely that they differ in their collectivist values. For example, their values of interdependence in business might not concern reciprocation of favours, or consider others when making decisions. The present items did not assess cross-culturally applicable expressions of values. This poses problems in

measuring collectivism between cultures. Interviews with UK executives might shed light on what expressions of collectivist values should be measured.

In the HK group, collectivism and individualism values emerged in the factor analyses. However, both collectivism and individualism scores were relatively low. Co-existence of individualism-collectivism (Triandis et al., 1990) and independence and interdependence (Matsumoto, 1999) cannot be concluded among HK business executives. Analyses of the contents of independence/self-direction and interdependence items (see Section 7.2.1) revealed a possible explanation for the relatively low scores. In business contexts, HK business executives slightly to moderately agreed that they expected their network contacts to reciprocate favours, and did not mind being dependent on their strong ties. They were neutral to slightly agreed that they preferred to handle problems by themselves without sharing with anyone else in their society. Perhaps the need for autonomy affected the extent to which they depended on their strong ties, or expected benefits to be reciprocated. Such a need might be attributed to the intrinsic nature of their occupational group as suggested in the previous chapter (see Section 6.1)

Further, the results indicated that HK business executives were significantly more individualistic than their UK counterparts in one measure of the common factor, but not the other. This finding may appear to challenge the hypothesis that HK has a more collectivist culture. However, a scrutiny of the content of the two items revealed the underlying orientation of individualism among HK business executives. The only difference in the two measures was that the former was related to personal problems but the latter was about business problems or worries. One possible explanation

would be that HK business executives were unwilling to show their weaknesses to their friends since circles of strong ties, who were often friends, might know each other and share potential damaging information. For example, they might want to avoid their enemies getting hold of information about their personal problems. In fact, two business executives in mainland China voiced this concern during the iterative interviews. They said that they found it lonely to be a business owner since they could not disclose personal or business problems to their close friends. For this reason, HK business executives were more individualistic than UK business executives only in the context explored in the present study. We cannot generalize the findings in other contexts. How HK and UK business executives might compare with the general population will be further discussed in the section of theoretical implications later in the chapter.

On the contrary, UK business executives might be slightly more willing to discuss personal problems with their friends, but less willing to share business problems with anyone else. Perhaps, friends in this context would be interpreted as social friends, rather than business friends. There might be a tendency for UK business executives to divide their contacts into two spheres, business and social.

UK business executives scored significantly higher in Discretionary Trust than their HK counterparts. This finding contradicted the prediction of similar scores of Discretionary Trust in both groups. This suggested that UK business executives had higher tendency to be discerning in deciding whom to trust and possibly more risk averse than HK business executives. Because of the overall small effect size identified earlier, the results must be interpreted with caution. Nevertheless, this attitudinal

tendency among UK business executives was supported by their unwillingness to tolerate the questionable business practices examined in the present study. Future studies should further examine the significant difference between scores, and explore relationships between risk propensity, Discretionary Trust and Ethical Trust. This will be further discussed in the topic of uncertainty avoidance later in this section.

Investigation of the relationship between the cultural measures of individualism-independence and Discretionary Trust in both groups revealed further understanding of the underlying natures of Discretionary Trust in relation to individualistic and collectivistic cultures. A significant correlation between Self-Direction UK and Discretionary Trust among UK business executives was not found. However, Discretionary Trust correlated with Independence HK among HK business executives. In particular, the independent attitudes examined in the HK data were those of being self-sufficient by utilising own resources, setting own goals in life, and valuing a sense of independence from the influences of others. It was also found that the collectivistic values of “expecting my network contacts to reciprocate favours”, and “being dependent on my strong ties” did not correlate with Discretionary Trust in the HK data. Therefore, these findings suggested that the trust attitudes of HK business executives being discerning in deciding whom to trust in business were related to individualistic values.

These attitudes are not consistent with Chinese heritage (Tse et al., 1988), which emphasises the importance of tending favours and building trust through cultivating personal relationships and characteristic-based trust (Zucker, 1986). Neither did the findings reveal the presence of trust values towards tolerance of questionable ethical

attitudes. These findings might be related in part to the education level of the HK respondents who were generally better educated than their UK counterparts. However, no correlation between Discretionary Trust and education levels was found in the HK data. Furthermore, most of the HK respondents were members of the Rotary Club in HK, their ethical attitudes would be influenced by their exposure to Western business practices and the club ethos. However, correlation between Ethical Trust and education level in HK could not be conducted because Ethical Trust did not emerge in the factor analysis. Perhaps, the ethical conduct to be abided by Rotary Club members might be a contributing influence. They might avoid the ethical dilemma by having a tendency to choose whom they wanted to trust in business dealings. Future studies should attempt to match or control for education levels and recruitment channels of participants from different networking forums in cross-country comparison.

Finally, the relationship between Discretionary Trust and individualism differed in HK and UK. Yamagishi and Yamagishi's (1994) General Trust scale and Huff and Kelly's (2003) measure of propensity to trust other members within organisations suggested that individualists were generally more trusting of others than collectivists. However, the present measure of Discretionary Trust among UK business executives was a construct that measured in whom they chose to trust in business dealings. The fact that the cultural measure of Self-Direction did not significantly correlate with Discretionary Trust in the UK sample suggested that individualism did not correlate with discriminating trust attitudes in individualistic culture.

### **Limitations**

The results of the present study should be viewed in the light of several limitations.

First, because of the incomplete HK data set, we cannot determine whether IBT plays a role in business trust values among HK business executives. Discussion about IBT among HK business executives will be presented later in the section.

Second, the limitation of using a small sample in the previous two studies in Part A and Part B of this thesis also applies to the present study. Thus, these might not be the final structural models.

Third, internal reliabilities (as assessed by Cronbach's Alpha) of a construct or a domain are expected to be in the region of 0.70 and 0.90 or more (Anastasi & Urbina, 1997). However, the reliabilities of the Discretionary Trust and Ethical Trust measures developed here were between 0.61 and 0.66. Because of the exploratory nature, I acknowledge that there was a weakness in the face validity in these two constructs. Revising item wording would improve these alpha values. Moreover, there may be additional trust values of Discretionary Trust and Ethical Trust that a future study can further explore.

### **Construct Validity of Discretionary Trust, Ethical Trust and Institution-Based Trust**

The development of a meaningful and measurable psychological construct requires evidence of construct validity (Campbell & Fiske, 1959). However, no test of construct validity was conducted in the present study because of the constraints on

questionnaire length, but future research can investigate correlations between the Business Trust scales and other trust scales.

For example, the Liking People Scale (Filsinger, 1981), which measures a favourable orientation toward people, may be a relevant measure for addressing construct validity of the present Business Trust scale. The Liking People Scale was one of the existing scales used to assess construct validity of the Generalised Trust scale in Couch, Adams and Jones' (1996) Trust Inventory. The scale was positively related to Generalised Trust ( $r = 0.57$ ). Although the Discretionary Trust factor was a measure of attitudinal tendency to be discerning in deciding who to trust rather than a measure of generalised trust, a positive correlation between the Liking People Scale and Discretionary Trust would be predicted by similarity - attraction theory (Insko & Wilson, 1977). Donny and Cannon (1997) found that trust between buyers and sellers is positively influenced by perceived sales rep likability. Thus, we would expect business executives to trust those people who are honest and who are also liked. Further, we would expect a negative correlation between the Liking People Scale and the Ethical Trust factor in the UK sample.

Furthermore, the suspicion subscale of the Buss-Durkee Hostility Inventory (Buss & Durkee, 1957) has been shown to be a valid and reliable measure of mistrustfulness. Couch and Jones (1997) further examined the validity of the Trust inventory. They found that the suspicion subscale was inversely related to Generalised Trust (correlation of  $-0.65$ ) and Network Trust (correlation of  $-0.72$ ). Among the present measures, we would predict a negative correlation between the suspicion subscale and the Discretionary Trust factor but a positive correlation with the Ethical Trust factor.

The construct of IBT was not validated in the present study. Since there is a lack of other constructs to assess construct validity, it might be worthwhile to develop a construct with opposite sentiment towards formal structures and law (alternative to the law). Future studies should develop new items that tap into this domain.

### **Institution-Based Trust in HK**

Because of problems concerning questionnaire length, HK respondents were given a shorter questionnaire that excluded items of IBT. However, the rationale for investigating IBT in HK in a future study is presented below. This thesis posits that IBT might not be relevant in HK. However, in retrospect, it would have been interesting to test this.

While the results showed that UK business executives relied on IBT to some extent, this thesis questions whether HK executives rely on IBT to produce trust in their business dealings? This question is best examined by considering the context of trade between Hong Kong and China, and how HK business executives may respond to trust produced in institutional contexts. Trust in institutional contexts may be more complicated in HK than in the UK. This is because the HK business executives in the present study had business dealings with those who were likely to be from other cultures, but the UK counterparts tended to deal with other executives from the same UK culture. Because of the transition of Hong Kong returning to China's ruling, Hong Kong's economic dependence on China (specifically mainland China) has been

increasing in the last decade. An OECD<sup>6</sup> Observer article of 20 August 2003 indicated that China was the world's largest recipient of foreign direct investment (FDI) for the first time in 2002. The article further reveals that "nearly half of cumulative realised FDI in China is listed as having originated in Hong Kong, though this includes an uncounted amount of FDI from the overseas Chinese diaspora, Chinese Taipei and from within China itself, via 'round tripping' in Hong Kong to take advantage of fiscal incentives offered to non-mainland investors". Thus, more Hong Kong executives are dealing with business people in China as well as others in Asia and Western countries depending on the nature of their business. Therefore, they may be dealing with others from diverse cultural backgrounds including those from Mainland China, who may or may not be in-group members.

Further, Child and Mollering's (2003) quantitative study indicates that Hong Kong managers/ investors perceived the importance of institutional contexts in China in producing trust in their staff in China operations. This finding confirms the prominent role of institutions as bases of trust previously defined by Zucker (1986) and exemplified by Lane and Bachmann's findings (1996). However, when the law in China is uncertain in its implementation and subject to political considerations (Child & Tse, 2001), Hong Kong's increasing dependence on the Chinese economy may influence HK business executives to put less emphasis on IBT. We would expect that a factor corresponding to IBT might not emerge in HK in the present political context. Future research to examine this proposed notion is a way forward.

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<sup>6</sup> OECD is Organisation for Economic Co-operation and Development.

### **Culture and the Trust Domains**

In addition to individualism-collectivism, Hofstede (1980) also identified three other cultural dimensions: power-distance, uncertainty avoidance, and masculinity-femininity. This thesis did not examine possible effects of these cultural dimensions on the trust domains of Discretionary Trust, Ethical Trust, Reciprocation Trust, or IBT because of the constraints on questionnaire length. Future research should consider these three cultural dimensions. Theoretical reasons are discussed below.

The concern of power inequality in a dependence exchange relation was highlighted in the discussion section of Chapter 5 in Part B of this thesis. Since power-distance refers to how acceptable it is to have power inequality, we may expect a positive relationship with Reciprocation Trust and power-distance among HK business executives if reciprocation between two actors is not equal.

Uncertainty avoidance refers to the extent to which people feel either comfortable or uncomfortable in unstructured or ambiguous situations. Societies with high uncertainty avoidance tend to impose strict law and rules in minimising unstructured situations. On the contrary, societies with low uncertainty avoidance are more tolerant of alternative opinions and behaviours (Kale & Barnes, 1992). The need for formal rules would be less. Downes et al. (2002) theoretically suggest that people from countries such as Japan and Korea that are high on uncertain avoidance may be risk-averse and tend to avoid uncertain and risky situations. They may be less trusting when dealing with unfamiliar cultures.

However, Britain and Hong Kong obtained similar scores on uncertainty avoidance (Britain: scored 35 ranked at 47-48; Hong Kong: scored 29 ranked 49-50) in Hofstede and Bond's (1988) survey. Both scores are quite low when comparing to a score of 92 for Japan (ranked 7), a country with high uncertainty avoidance. Since the findings of the present study showed that UK business executives were relatively intolerant of ethically questionable behaviours, they might prefer rules and regulations to lay down what should be or should not be done in grey areas in order to eliminate any uncertainty. Therefore, we would expect a positive association between uncertainty avoidance and the trust domain of Ethical Trust, and also IBT. Further, the present study showed that UK business executives had higher tendency to be discerning in deciding whom to trust than HK counterparts, we would expect that uncertainty avoidance might be positively associated with Discretionary Trust among UK executives. Future studies should explore these relationships.

The masculinity-femininity dimension refers to preference for masculine goals (e.g. assertiveness and individual achievement) over feminine goals (e.g. nurturing and co-operation). The cultural values of masculinity are those of independent thought and action, confrontation and individual achievement, whereas femininity depicts cultural values of honouring moral obligations, co-operation and solidarity and service (Hofstede's 1980). In this sense, masculinity tends to correlate with individualistic culture, whereas femininity tends to exist in collectivistic culture. Since this thesis has examined correlation between individualism and Discretionary Trust in HK, we may expect that the masculinity dimension may also correlate with Discretionary Trust in HK.

### **Theoretical Implications**

This section summarises theoretical implications of recognizing the importance of IBT in HK for the measurement of trust values in HK and UK business executives.

Also discussed are the possible context sensitivity of the cultural items, possible differences between business executives and the general population, and cultural differences in moral judgment.

#### IBT in HK

This thesis has emphasised two trust domains: Discretionary Trust and Ethical Trust in the UK and HK, and specifically examined IBT in the UK. As mentioned above, future studies should examine whether IBT would emerge in factor analyses in HK. i.e., to assess whether institutional safeguards in a collectivistic society such as Hong Kong are paramount in business dealings since transactions may not be confined to in-group members.

#### Business Contexts of the Cultural Items

Another theoretical implication concerns the relationship between culture and trust values. This thesis found a correlation between Discretionary Trust and Independence, and both collectivism and individualism values among HK business executives.

However, it did not find a cultural factor of collectivism-interdependence among UK business executives. Further, only one common cultural factor was found in both cultures. In order to obtain further understanding of the relationship between culture and trust values, this thesis suggests that the independence-interdependence and individualism-collectivism items used in the present study should be modified with

reference to the context of each item. The context should be directly related to the context of business dealings within the same culture and that of cross-border dealings.

### Comparison with the General Population

HK business executives were found to be more individualistic than UK business executives, but both collectivism and individualism scores in the HK group were relatively low. This further raised research questions and theoretical implications. Are HK business executives torn between individualistic and collectivistic values? Are UK and HK business executives more individualistic than the average for their country due to the nature of the entrepreneurial occupation? Do both HK and UK business executives share some or all the individualistic and collectivistic values ascribed to their country as a whole? In order to address these questions, measures of individualism and collectivism should include group contexts (Triandis et al., 1986), and business contexts as suggested above. Comparisons with the general population along dimensions relating to personal characteristics such as need for achievement and autonomy in addition to individualism and collectivism will give us further understanding of the relationship between culture and trust values among business executives.

### Moral Judgment and Cultural Differences

Examination of the mean scores of the four items in the IBT construct in Table 7.9, suggests that UK business respondents did not feel that they could fully rely on the legal and regulated environment for business dealings in the UK. They slightly agreed with the statement that business people in the country abided by contracts, and slightly to moderately agreed that business people in the country generally obeyed the

law. Contracts were seen as slightly to moderately important. Since Kohlberg's stage 4 on the conventional level (see Table 2.1 in Chapter 2) requires conformity and obligation toward rules and obligations of society, this finding suggests that UK business executives' moral judgment may marginally fall at stage 4, but not stage 5 on the post-conventional level. Shweder et al. (1987, p.15) contended that a limitation of Kohlberg's three-level scheme is that "very few people are postconventional thinkers...and the vast majority of responses fall within the loose boundaries of the conventional level of understanding (stages 3 and 4)". Perhaps, what should be legally required for citizens in the business world is impeded by the practicality of protecting self-interest and vulnerability in business transactions.

Further, Shweder et al. (1987) offered an alternative postconventional moral understanding. Contrary to Kohlberg's model that claimed there were no fundamental differences from culture to culture, they recognised cultural differences in moral principles. Kohlberg's scheme was founded on an individualistic emphasis on moral autonomy in which people in society have individual rights. Shweder et al. (1987) argued that Kohlberg's postconventional stages do not align with the moral reasoning in collectivistic cultures where emphasis is placed on community obligations. For example, Indian culture emphasises the sacredness of all forms of life in their belief system, with an aim to preserve a social structure modeled on the family. Shweder et al. (1987) considered that Kohlberg's focus has excluded some domains of morality that are culture-bound.

Shweder and his colleagues' contention has direct relevance to possible cultural differences in business executives' trust values that the present study has not

examined. For example, since Discretionary Trust among HK business executives indicated an individualistic orientation, is there a trust domain that is centered on collectivistic values concerning their ingroup obligations? If trust attitudes toward ingroup obligations is prevalent among HK business executives, how do these attitudes relate to Discretionary Trust? This may further give us insight about their low scores on both individualism and collectivism measures in the present study.

As a whole, this thesis has opened a new theoretical research area of a business trust scale in business dealings by taking account of cultural differences. The present approach is different from that implied by the well known interpersonal trust scales developed by researchers such as Johnson-George and Swap (1982), Rempel, Holmes and Zanna (1985), and Couch, Adams and Jones' (1996) since cultural relationships were not taken into account in their studies. Further, the context of the present business trust scale is also different because it addresses trust between business executives in different organizations rather than interpersonal trust between superiors and subordinates within the same organization (such as Butler, 1991 and Mayer et al., 1995). Because it instigates a new area, the present study obviously raises as many questions as it answers. These questions are summarised as further research directions after practical implications are presented below.

### **Practical Implications**

In response to the demand for cross-cultural understanding of similarities and differences in trust values in business dealings, this thesis has examined the practical implications for UK business executives doing business in Hong Kong and mainland China, and for HK business executives doing business in mainland China.

The results show that UK business executives have a higher tendency to be selective in whom they want to trust than HK business executives. In particular, they were more willing to trust people who are believed to be honest, and with whom they have shared the experience of solving problems together. However, when the grey area of business ethics arises in cross-border business dealings between the UK and Hong Kong, UK business executives may find themselves responding with more discomfort than HK business executives would.

Although the present study compares southern England and Hong Kong, it is still possible to draw some practical implications for doing business in mainland China. The business environment is regulated and institutionalized in the UK, but the opposite applies in China where rule of law requires further development (Child & Mollering, 2003; Xin & Pearce, 1996). UK Business executives who conduct their activities in an institutionalised environment may take the rule of law for granted. Indeed, they may be so accustomed to legal protocol that they find other business protocols uncomfortable. To overcome the possibility of being financially taken advantage of, those UK business executives who trade with China are facing increasing challenges finding honest people to do business with. Based on the present research findings, apart from assessing honesty and reliability of trustees, building strong rather than weak relationships with Chinese would be the best strategy to build trust. Cultivating friendship in business relationships will also increase trust. Having an interest in building trust with strong ties across cultures would be a good starting point.

In cross-national business dealings between Hong Kong and China, trust attitudes may also pose problems for assessing the boundaries of ethical flexibility among HK business executives. The present results suggest that business executives in Hong Kong would value honesty and shared experience with their business associates. This attitude further suggests that they may be forced to assess the honesty of others rather than to presume a legal and institutionalised framework that can provide enforcement mechanisms to protect business interests. In this sense, business dealing with Chinese people in mainland China may require scrutiny of the trustworthiness of others. Building personal relationships is one strategy for building trust. However, this strategy does not guarantee that business people will keep their promises in undesirable circumstances when self-interests supersede mutual interests.

### **Future Research Directions**

There were other domains that the present study did not explore due to its limited scope. Thus, the four domains of trust values examined in the study are by no means comprehensive. There is scope for extension of the present constructs of business trust values by considering other domains. Below is a summary of areas that might have implications for developing a more extensive business trust scale.

First, Yamagishi and Yamagishi (1994) offer a comprehensive understanding of a number of sub-dimensions of trust in others in general. For example, the suggestion that “reputation can provide an extra insurance for committed people to deal with social uncertainty involved in the deals with outsiders” (Yamagishi & Yamagishi, 1994, p. 138) may be relevant to the present study. To have a good reputation may require one to be honest in most situations. Thus, high-trusters may interact mostly

with people of good reputation who are largely honest and trustworthy people (Yamagishi & Yamagishi, 1994). However, assessing an individual's reputation differs from perceiving the person's reliability. This thesis posits that people who are reputable in their fields or industries may not necessarily be reliable. Having a good reputation would increase the chances of meeting someone with whom future business dealings could be discussed, but would not in itself guarantee a trusting relationship. If a person with a good reputation proves to be unreliable or dishonest subsequently, the question arises of whether this would damage his or her reputation. The answer partly depends on how efficiently negative reputations are communicated within social networks. Future research should explore these questions: trust values that measure the underlying construct of reputation, and whether this construct correlates with the construct of expectations of honesty and reliability.

Second, future research should explore a trust domain concerning in-group obligations among HK business executives. For example, in the Chinese context, the value of utilising networks of committed relations (*guanxi*) in building trust may be relevant. The presumption of in-group favouritism as a business trust value in a collectivistic culture is worth investigating. In an individualistic culture, there is less emphasis on committed relations in social networks (Yamagishi & Yamagishi, 1994). The designation of "friends" for an individualist may include non-intimate acquaintances (Triandis et al., 1988). These contrasting attitudes might reflect differences in underlying trust values.

Third, while Hofstede's (1980) framework provides a useful tool for comparing cultural characteristics between countries, other cultural characteristics may provide

additional insights into the business trust values of business executives. Predictions of relationships between other cultural dimensions and the trust domains were suggested earlier in the section. Further, Triandis (1982) suggests that a culture's view of human nature has implications for the role of trust in societies and in organisations. For example, some culture may view human nature as a combination of good and evil, but others may believe in the intrinsic goodness of humans. This premise might have an influence on how UK and HK business executives form their trust attitudes.

Fourth, trust values might be driven by underlying assumptions about trust and risk. These assumptions have not been explored in the present context. In addition to associations between uncertainty avoidance and Discretionary Trust and Ethical Trust in the UK as mentioned earlier, values regarding risk-averse behaviours in trusting people who are outsiders or out-group members in both cultures should be examined in future research. Cultural measures of uncertainty avoidance might have an association with risk-averse behaviours.

Fifth, tolerance of negative qualities in others was related to the domain of Ethical Trust in the present study. By contrast, we might expect that positive qualities would produce trust. For example, four components of behaviour were found to be important in gaining trust in a study of purchaser trust among salespeople by Swan, Trawick, and Silva (1985). They were competency, dependability, responsibility and likability. This is a domain of trust values that requires further study in the present context of business dealings.

## Chapter 7

Overall, the three domains of trust values in business dealings developed in the present study have established a platform for further investigation of a more comprehensive trust scale. In the next chapter, emphasis will be placed on implications for the formation of trust among business people in different cultures.

### Conclusions

In the course of networking at business events, business executives may find themselves in situations of doubt, unsure of whether or not to trust certain people. During some of the research interviews in southern England and Shanghai, business owners reported that they relied on their intuition when deciding whether or not to trust an individual, but they could not articulate the basis for their intuition. However, other interviewees could suggest factors that helped them trust individuals. This thesis has examined the question of how trust is established between business executives and their associates, whose relationships may be strong or weak, and their trust values in business dealings in three different studies. Three sets of theoretical trust models and two a priori factor structures of business trust values were examined. This chapter presents the conclusions that integrate the three studies in this thesis. First, the aims of the thesis, originally presented at the end of Chapter 1, are revisited and discussed. The initial sections of the chapter then concentrate on the theoretical and methodological aims of the thesis. Second, the key findings of this thesis are integrated. Third, cultural implications for producing trust among business people in different cultures are discussed. The remainder of the chapter then addresses limitations of the thesis, liking as a possible confounding variable, and the thesis contributions to research. Finally, future directions of interpersonal trust research are suggested.

Detailed findings, theoretical and practical implications of each study are not discussed again in this chapter. For this information, please refer to the discussion sections at the end of Chapter 3, 5 and 7.

## 8.1 Aims of the Thesis Revisited

This thesis had six aims:

- (1) To develop a psychological model of interpersonal trust in strong business ties and weak business ties.
- (2) To develop psychological models of interpersonal trust in strongest business ties with and without friendship.
- (3) To develop a scale measuring business trust in the context of UK and HK business dealings.
- (4) To develop studies incorporating independent and dependent variables that had not been studied in past research.
- (5) To examine a number of predictors of trust simultaneously by using structural equation modelling.
- (6) To sample business executives who regularly network at business networking meetings.

Each of these aims listed above is discussed in the light of the experimental results in the following sections:

### **Development of a Model of Interpersonal Trust in Strong and Weak Business Ties**

The theoretical development of the model of interpersonal trust in strong ties and weak ties used in this thesis was based on a literature review of social exchange theory (Blau, 1964), norm of reciprocity (Gouldner, 1960), definitions of trust mainly developed by sociologist such as Zucker (1986) and Barber (1983), and reciprocity of trust (Butler, 1983, 1986). The essence of the proposed model is its conception of trust as mutual expectations of honesty, reliability and discretion shared by two actors, an ego and an alter, involved in an exchange, whether it is negotiated or reciprocal. The model also incorporated a notion of meta-trust by exploring whether there were expectations of reciprocation of trusting behaviours. In particular, they were behaviours of honesty, reliability, discretion, reciprocation of favours and mutual benefits. Although the findings provide little evidence of reciprocation of these trusting behaviours (meta-trust), the trust model has opened up new research questions to be explored in the future. These will be discussed in the sections concerning cultural implications and future research directions later in this chapter.

### **Development of Models of Interpersonal Trust in Strongest Business Ties with and without Friendship**

Theoretical development of the models of antecedents of interpersonal trust in the strongest ties with and without friendship was based on similarity-attraction theory, Granovetter's (1974) tie strength, Zucker's characteristic-based trust, and past research on trust and friendship. This thesis proposed the construct of Relationship Association as business tie strength, and suggested that this construct has a direct impact on trust. This construct was intended to replace Granovetter's (1974) tie

strength in social relationships to suit the context of business relationships. Other proposed antecedents of trust were combinations of perceived similarity in business values. Empirically, this thesis has discovered that sharing certain common ground indirectly and directly produces interpersonal trust in strongest business relationships, which further reinforces similarity-attraction theory. However, because of the limited power of the model fit in a small sample size, the item-parcel containing items reflecting shared common ground did not contribute to the final models. Therefore, the theoretical aim was only partially met. In spite of this limitation, rephrasing the questions to solicit responses on shared characteristics in a future study would represent a way forward.

### **Development of a Business Trust Scale**

Theoretical development of the business trust scale was based on Zucker's institution-based trust and process-based trust, and an original theory developed in this thesis. A priori factor structures were developed separately for UK and HK business executives in order to permit cross-cultural comparison. In total, four domains of business trust values were proposed. Three domains were supported in the present study. Although assessment of construct validity was not performed for these domains, concurrent validity of two domains, Discretionary Trust and Ethical Trust, demonstrated some validity of these two domains in the UK sample. Since the construct of IBT was not validated, the theoretical aim of developing a business trust scale in the UK was only partially met. However, the factor structure of business trust in HK was not definitive because of the incomplete survey. Nevertheless, the research conducted has practical implications in the business world, as discussed in the preceding chapter. It would be worthwhile to replicate the study in HK. Moreover, the trust scale can be refined and

extended to other domains or areas (as suggested in the final section of the preceding chapter).

Overall, Zucker's (1986) theory of production of trust, namely institution-based trust, characteristic-based trust and process-based trust, was instrumental to the theoretical development of the trust models and the trust scale in this thesis. Although Zucker's (1986) paper was theoretical, this thesis has empirically examined aspects of production of trust in the UK, and partly in HK. The cultural comparison study has highlighted the issue of the role of cultural context in the formation of trust between business people in different cultures in future research. This will be discussed in Section 8.3.

### **Development of studies that incorporate independent and dependent variables that have not been studied in past research**

Most of the measures used in this thesis were developed from iterative interviews and literature reviews, but the cultural items were sourced from Collett, Emler and Fielding's (unpublished) Big Tim Self Description Inventory and Hui's (1988) INDCOL scale. Because of the exploratory nature and the small number of items in the scales, the constructs of the business trust values and the cultural variables yielded less than ideal Cronbach's alphas ( $< 0.70$ , Anastasi & Urbina, 1997). Cronbach's alphas of the item-parcels of characteristics shared were also less than 0.70. Although this thesis has created a number of new variables for investigation, there is room for improvement in increasing internal reliabilities of the constructs in future studies by exploring additional variables relevant to the constructs. For example, measuring positive qualities, such as competency, dependability, responsibility and liability, as

part of ethical trust variables is recommended. The discussion of future research directions at the end of the preceding chapter suggested other domains and areas of research.

### **Simultaneous examination of predictors of trust using structural equation modelling**

Examining causal constructs and mediating effects in predictive models of trust was achieved by the use of structural equation modeling. Since structural equation modeling was not foreseen at the design stage of the questionnaire, sharing of similar characteristics was represented in categorical variables. As a result, item-parceling of a combination of these variables was conducted in order to transform the parcels into continuous variables and to improve normality. This parceling procedure was not ideal because of possible misspecification of the models. This could cause a Type II error in failing to reject inadequate models. However, the present exploratory research has made the best attempt to obtain the adequate model fit by minimising possible misspecification of the models.

### **Sampling business executives who regularly network at business networking meetings**

In order to examine the trust models in the UK and the a priori trust factor structures in UK and HK, the targeted subjects were business executives who regularly attended business events where they built their networks of contacts. Since the questionnaires were long, the response rate to the paper version was only about 28%. Further, it was unrecorded for the Internet version. If these studies were replicated in the future, two improvements can be made. First, website hit can be counted for the Internet version

so that a response rate can be assessed. Second, the present questionnaires took about 30 minutes to complete according to the feedback from some participants. Several participants, whom I met again in some networking events, commented about the length of the questionnaires and suggested that they should be shortened by at least half of the length. A maximum of ten minutes completion time would substantially increase the response rate, as suggested by several participants. Questionnaires could be shortened by breaking down into a number of smaller studies.

Further, about 75% of the UK business executives who responded to the questionnaires were small business owners who owned equities of more than 5 percent (category 1). In future studies, this thesis suggests confinement to business owners or recruitment of equal numbers of business executives falling in category 1 and category 2 (executives owned less than 5% of equity). This is because there may be differences in trust formation in the two categories if risk exposure to equity owned plays a role in their motivation to build business relationships.

### 8.2 Empirical Conclusions

Having assessed the aims of this thesis, the purpose of this section is to integrate the key findings of this thesis and to evaluate their contributions to the understanding of interpersonal trust in business relationships. The results of the three studies suggested six broad conclusions:

First, when business executives' network circles comprised of strong and weak business relationships, several factors predicted dyadic trust between them (egos and

alters). As expected, UK business executives found themselves trusting weak ties less than strong ties. However, their expectations of honesty, reliability and discretion were the fundamental expectations that influenced trust, irrespective of strength of business relationships. Since Ethical Trust was negatively associated with expectation of both strong ties and weak ties being honest and reliable, this suggested that the more UK business executives expected honesty and reliability of their strong ties and weak ties, the less willing they were to tolerate questionable ethical behaviours in their ties. Among the items of Ethical Trust, their responses were in the range of indecision to slight agreement with the statement: "I can do business with people who are not totally honest, so long as I put safeguards in place". However, they slightly disagreed that they could tolerate regular clients who repeatedly delay payments. Neither were they positive about tolerance towards doing business with others who used unconventional approaches.

Second, since Discretionary Trust was closely associated with expectation of strong ties being honest and reliable, we were able to understand additional trust values that were related to these expectations. In particular, sharing the experience of solving business problems, expressing what they wanted financially, and trusting people who shared their principles of honesty were the trust values that related to UK business executives' expectations of honesty and reliability in their strong ties. By reviewing the contents of the items, it seems more plausible that these discretionary trust values would produce these trust expectations than the reverse causal relationship. While the belief that business people in the UK abided by the terms set out in their contracts and generally obeyed the law received slight to moderate agreement, this thesis suggested that this discerning nature of trust attitudes must be prevalent among UK business

executives in conducting business dealings. Perhaps, this might be the best strategy for them to safeguard their transactions with strong ties.

Third, the second conclusion above leads to the question of whether strength of business relationships can produce dyadic trust in strong ties, in addition to the discriminating choice of business individuals examined in this thesis. With an exploratory objective, the strongest ties with and without friendship were examined in order to investigate whether trust formation would differ for these two types of ties. This thesis found evidence of relationship association between business executives and their strongest business ties being a direct predictor of trust irrespective of friendship. However, if business friendships were used to build stronger and longer-term relationships in business (Beatty et al. 1996), it was predicted that relationship association would have been significantly higher in strongest business friendship ties than those without friendship. The present findings supported such a prediction.

Having investigated a difference in strength of business relationship with and without friendship, Chapter 5 raised a research question concerning whether the nature of strongest business friendship ties was different from that of best/close social friendship ties with whom interaction outside office hours was expected to be higher than average. In Section 3.3 of Chapter 3, a similar question concerning possible differences between business friendship and social friendship was raised because expectation of reciprocating of favours was not found to influence trust in strong or weak ties. Some of the iterative interviews in the UK revealed that some business executives tended to keep their business and social life separate. Perhaps, business friendships are inherently different from social friendships in the UK. A further study

is a way forward to examine this question. This will be discussed under the heading of future research directions later in the chapter.

Fourth, when there is friendship in strongest business relationships, this thesis showed that sharing some common ground also influenced trust. Although the predictive model of trust was not the final model due to the limited power of the model fit test, this thesis identified that sharing activity similarity, education, and work/college environment in the past, directly enhanced relationship association, and increased perceived similarity in ideas/visions and business principles. These influences then directly produced trust in strongest business friendship ties, but they had no indirect influence on strongest business relationships without friendship. Further, since Discretionary Trust is a tendency to be discerning in deciding who to trust and discretionary trust values may produce trust expectations of honesty and reliability in their strong ties as mentioned in the second point above, we may expect that UK business executives' choices of "business friends" may be influenced by common ground as well as their discerning trust attitudes. This has practical implications for UK business executives for building trust with their strongest business friendship ties.

Fifth, the finding that the experience of being let down by strongest business ties had no influence on the level of trust of UK business executives contradicted the hypothesis in the second study. Since the finding of the first study showed that expectation of reliability was one of the fundamental expectations that influenced trust in strong ties, the unexpected result may suggest that expectation of reliability in strongest business ties without friendship may differ from that of strongest business friendship ties. This has a theoretical implication for the first study. It will be

beneficial to explore whether the three fundamental expectations of reliability, honesty, and discretion in strong ties with friendship differ from those expectations in strong ties without friendship in a future study.

Sixth, this thesis provided a detailed understanding of interpersonal trust between business executives and their business associates in the UK in the present climate of institutional regulations and rule of law. Since the presence of law was less widely and uniformly accepted in business relations in the UK and law was invoked as a last resort (Lane and Bachmann 1997), the propensity to trust strong ties in business dealings was cautious and selective. The findings suggested that those strongest business ties tended to be trusted more if they had shared common experiences in the past, or if they were also British and spoke the same language, or shared similar business principles and professionalism. The terms “insiders” and “outsiders” were used in some of the interviews with UK business executives. At one level, insiders may be seen as strong ties and outsiders as weak ties. Since business executives’ network circles of strong ties can consist of five to ten insiders, there is a need to understand the psychology of allowing an outsider to become an insider (e.g., Crisp & Hewstone, 2000). Issues such as dissimilar characteristics in race, religion or class between insiders and outsiders (Staples, 2000), use or non-use of new forms of information and communication technologies contributing to social and economic stratification (Warschauer, 2003), and the importance of mobility in sustaining physical proximity for social inclusion (Urry, 2002) should be addressed in future research. The present thesis has offered some insight into the commonality being shared between UK business executives and their strongest insiders with and without friendship, and the other factors that produced trust in them. Researchers talk about

in-group and out-group in all cultures. Particular importance is attached to who is an “in-group member” and who is an “out-group member” (Triandis, 1989, 1990). The cultural implications of trust production in the Chinese context will be discussed in the following section.

### 8.3 Cultural Implications for Trust Production in Different Cultures

Cultural implications of producing trust among business people in the UK and Chinese cultures are discussed below. Although HK is politically part of China, this thesis suggests that there are cultural differences between business executives in HK and those in mainland China in the way they form trust. This section begins with a discussion of Reciprocation Trust in the HK cultural context, followed by that in the China context. Ethical behaviours and Characteristic-based trust in the Chinese context are also discussed.

The fact that two items in the domain of Reciprocation Trust did not load on the business trust scale in the HK sample might suggest that either these items did not tap correctly the underlying trust values of the domain, or were not fundamental trust values in transactional dealings. Although this thesis hypothesised that the domain of Reciprocation Trust was part of business trust among HK business executives, there is another possible explanation of the non-significant result. HK business executives may need to engage in more extensive deliberation to judge the real benefit when someone reciprocates favours in business contexts, and thus whether receiving or giving a favour will strengthen trust between giver and receiver. Trusting someone might not be based on reciprocation of favours.

However, our argument differs in mainland China. Xin and Pearce (1996, p.1641) find that when operating in an underdeveloped legal framework, private-company executives, in mainland China “depend more on connections for protection, have more government connections, give more unreciprocated gifts, and trust their connections more” than other executives. This implies more complexity in conducting business transactions in China. Chinese business executives may find themselves under social pressure to accept and reciprocate favours in order to build trust on a more personal level. If the first and third study in Part A and C of this thesis were replicated in China, this thesis would predict opposite results to the present findings. That is Reciprocation Trust would be extracted as a factor of the business trust scale, and expectation of reciprocation of favours would predict the level of trust in strong ties and weak ties in China. Nevertheless, the two items of Reciprocation Trust require re-wording in order to tap correctly into the construct.

Moreover, when we expect favours to be reciprocated, part of the underlying expectation is that of mutual benefits. The findings demonstrated that these two expectations were correlated. Therefore, this thesis predicts that expectation of reciprocation of favours and mutual benefits may be fundamental expectations in mainland China.

In considering ethical behaviours in mainland China, this thesis suggests that the sentiment towards perceiving questionable or unethical business practices as ethical or moral behaviours is even stronger among business executives in mainland China than among those in HK because of the underdeveloped institutional and legal

environment in China. Trust values among mainland Chinese executives may not be orientated towards behaviours that are perceived to be unethical or immoral by UK business executives. The argument about Ethical Trust not emerging in HK also holds for business executives in mainland China.

Following the argument above, this thesis further postulates that trust values in the Chinese context are orientated towards similar guanxi bases. Tsui and Farh's (1997) framework of relational demography and the Chinese concept of guanxi are similar to Zucker's (1986) concept of characteristic-based trust. These researchers provide a set of hypotheses illustrating how and when these two factors will influence work outcomes in Chinese organisations. Their article refines the concept of guanxi bases and provides guidance for future empirical research on this topic. Like some demographic attributes (e.g., age, race/ethnicity and sex), some of the guanxi bases (e.g., father-son and surname) are inherited at birth or ascribed, and others are acquired later in life (e.g. husband-wife or classmate), or achieved by status. One of the major distinctions between relational demography and guanxi is that guanxi bases, such as former co-worker or former classmate, involve some past relationship. The bases for relational demography, such as age, ethnicity, gender or religion, refer to the individual's current characteristics and do not necessarily involve opportunities for interaction among individuals sharing the same attributes. Further, the study of Farh, Tsui, Xin and Cheng (1998) might be the earliest study that examined the joint role of guanxi and relational demography in the Chinese context. The guanxi bases between 32 business executives and their customers, suppliers and government officials in mainland China were analysed. Three types of ties: relative, former classmate and same hometown (native origin) were found to be significant. Together, these three

guanxi bases accounted for 43% of the variance in the executives' expressed trust in their business associates.

In the context of the present thesis, we may question what the guanxi bases are between business executives and their strongest business relationships respectively in HK and mainland China that directly or indirectly predict trust in these relationships, and whether there are any differences between the two groups. In a collectivistic society like China, we would expect a direct influence of guanxi bases on trust rather than an indirect influence, attributable to strong bonding of in-group members. Trust values about sharing guanxi bases may emerge as a factor in the measures of a trust scale. A future study can examine these research questions.

### 8.4 Limitations

Like all research, the present studies in the thesis have limitations. This section is a summary of four key limitations of the thesis. Other limitations of each study were presented at the end of Chapter 3, 5 and 7, and are not discussed further here.

First, a limitation lies in the sample size, and thus the power of the fit test. Overall, the various trust models presented in the findings, especially the models with item-parcels in the second study (part B), may not be final models. Ideally, structural equation modeling using the number of variables assessed in the present research would require a sample size of more than 200 in order to have adequate statistical power, following Nevitt and Hancock's (1998) recommendation. However, Marsh et al. (1998) empirically examined the minimum number of indicators per factor ( $p/f$ ) in

confirmatory factor analyses by varying sample size ( $N = 50, 100, 200, 400,$  and  $1,000$ ), and questioned the perspective of “rules of thumb” about the minimum ratio of  $N$  per number of indicators ( $N/p$ ) offered to researchers in factor analysis to be misleading. These researchers concluded that with  $N = 100$ ,  $p/f$  should be at least four under the condition of three-factor congeneric models in which each indicator loaded on one and only one factor. When  $p/f = 3$ , their conclusion is consistent with Boomsma’s (1982) recommendation that  $N = 100$  may be sufficient, but  $N = 200$  is preferable. In the present investigation, sample sizes were slightly larger than 100, and  $p/f$  was 3 in the first study, but otherwise,  $p/f$  was 4 and 5 in the second and third study in confirmatory factor analyses. Although the present conditions of the thesis are not three-factor congeneric models, Marsh et al. (1998) offer insight into the preference of more indicators per factor when sample size is 100. Hence, there are three strategies to deal with this limitation in future studies:

- (1) The first strategy is to increase the number of indicators per factor if recruiting business executives remains difficult. For example, measures of expectations of openness and fairness can be added in the first study since these two items are expected to correlate with measures of expectation of honesty, reliability and discretion. This issue of increasing number of indicators in fact coincides with the issue of increasing internal reliability of some factors, which was discussed earlier in Section 8.1.
- (2) The nature of target respondents made them difficult to recruit. Collaboration with various institutes and professional bodies might have been a better way to recruit subjects. Indeed, I initially attempted this method by approaching the Institute of

Directors. However, they were unwilling to co-operate unless the questionnaire was shorter than one A4 page. This thesis recommends that some other creative collaboration or incentives are required for future studies to build on the present findings.

- (3) The third strategy is to perform bootstrapping procedures in structural equation modelling as a method of handling non-normality in relatively small samples (explained in Section 3.1.3 of Chapter 3).

Second, a number of variables had moderate non-normality. In addition to an increase of the sample size, re-wording or defining the items may minimise the problem, and hence add explanatory power to the trust models. For example, the items: “sharing similar business principles” and “sharing similar ideas and visions” require a definition or an example to clarify their meaning. Moreover, the item: “when doing business with people whom I know well, it is socially acceptable to express directly what I want financially” could be worded in more straightforward terms. The item: “people should set their own goals in life and not be influenced by others” should be simplified to contain one rather than two statements.

Third, the subjects voluntarily participated in the three studies of the present thesis. We may question whether there was a self-selection bias. For example, business executives with a strong tendency to distrust others might be those who were less willing to take part in this kind of research because they were uncertain about the investigator’s intentions. Further research needs to take steps to recruit representative

samples, or to incorporate comparisons between returnee's and non-returnee's in relevant dimensions.

Fourth, Section 3.3 of chapter 3 discussed the impracticality of obtaining strong and weak ties' responses in the first study. Despite conceptualising trust as a dyadic construct, it was only possible to analyse self-reports of trust from trustors and not the trustees in the present thesis. For this reason, assumed reciprocity and assumed mutuality instead of actual reciprocity were measured. This limitation raises a question concerning the extent to which these findings are biased by their reliance on the perspective of only one member of the dyad. Kenny (1994) views that person's perception may not be perceptions, but rather inferences or assumptions. In the present context, business executives might have assumed that if they demonstrated that they trusted their ties irrespective of strength of relationships, their ties would have reciprocated with trusting behaviours. This assumption may have been unrealistic. In particular, as discussed in Section 3.3 of Chapter 3, it is possible that reciprocity of expectations may be implicit or an unwritten rule. Some would take advantage of this implicit social rule to protect their self-interests. Furthermore, the results showed that business executives perceived that their strong ties and weak ties trusted them more than they trusted their ties. As also discussed in Section 3.3, business executives' reports may have been distorted by self-presentational biases, or they may have been suspicious of their ties.

Therefore, measuring actual reciprocity is the best way to find out actual expectations of reciprocating trusting behaviours between egos and alters (i.e. perceivers and targets). One method of operationalising this measure of actual reciprocity would be

to obtain three sets of scores respectively on other-perception, self-perception and meta-perception as suggested by Kenny (1994). These scores represent an ego's perception of an alter and the alter's perception of the ego, an ego's self-perception and an alter's self-perception, and an ego's perception of an alter's perception of the ego and vice versa. To be statistically and practically feasible, a sample size of a minimum of 100 pairs of egos and alters together with a minimum of four indicators per factor (i.e.  $p/f > \text{or} = 4$  as discussed above) is required. Alters can be one of three strongest ties, and weak ties (business acquaintances). Future research should refer to Kenny's (1994, Chapter 7) useful examination of fundamental issues of measurement accuracy in interpersonal perception. For example, measuring multiple targets (e.g. one ego and his/her six strong ties) may be necessary to assess target accuracy. This is a vast topic that is outside the scope of the discussion here.

### 8.5 Relationship between Liking and Trust

In research on close relationships, Berscheid and Peplau (1983, p.12) stated that "such words as love, trust, commitment, caring... along with a host of others, flicker in and out of the numerous conceptions of what a 'close relationship' is... The words used to explain the phrase *close relationship* often carry clouds of ambiguity". In the context of buyer-seller relationships, Smith's (1998) study of relationship quality has found that items of trust and satisfaction were loaded on a common factor while the construct of commitment was discriminated as a separate factor. Further, Nicholson, Compeau and Sethi (2001) demonstrated that liking partially mediated the relationship between value similarity and trust when the relationships between buyers and sales reps were young. However, in more established sales rep relationship, liking

fully mediated the relationship between value similarity and trust. There is concern whether trust can be entangled with other measures such as liking, relationship satisfaction and so forth. In the present thesis about trust in business ties, the relationship between liking and trust was not explored. The issue in question is whether liking of ties can be an alternative explanation for the present findings. That is whether liking could be a potential confound. This question is addressed below for each of the three studies:

In the first study of the thesis, a relevant question is whether expectation of being liked would be loaded with expectations of honesty, reliability and discretion such that this new factor would influence business executives' level of trust in strong and weak ties. With reference to Lewis and Weigert's (1985) theoretical conception of affect-based trust and cognition-based trust as mentioned in Section 5.3 of Chapter 5, liking would relate to emotional bonds in relationships while the other three expectations are cognitively oriented. This thesis suggests that expectation of being liked would not load on the existing factor of expectations of honesty, reliability and discretion. If this is correct, liking could not have explained the present findings in the first study. However, future research should examine the effect of expectations of being liked on the level of trust in strong and weak ties, and whether expectations of being liked would be reciprocal. The operationalisation should include other affective measures such as expectations of mutual confiding and self-disclosure, which may correlate with expectations of being liked, and thus form a separate factor. The theoretical model of trust in Figure 2.3 of Chapter 2 would then be expanded to include this affective factor of expectations for testing its effect on the level of trust in

both types of ties. Whether this new factor also influences trust in business ties should be explored in future research.

In the second study, a relevant question is whether liking instead of Relationship Association predicts trust in strongest business ties, or both liking and Relationship Association predict trust. The results of Nicholson et al. (2001) suggested that trust might become more affect-based over time as relationships between buyers and sales reps developed. In Section 5.3, a new construct called “Affective Association” was introduced to explore the emotional content of strongest business relationships in future research. Following up this proposal, degrees of self-closure, mutual confiding, and liking should be included in this new construct. Intuitively, we would expect that the greater the Relationship Association between business executives and their strongest business ties, the stronger the Affective Association would be. Thus, both types of Association would likely correlate with each other. Would both Affective and Relationship Association play a partial mediating role between common ground and trust when relationship duration is short, but play a full mediating role when relationship duration is long? Are there significant differences in the mediating roles between strongest friendships ties and strongest without friendship? These questions should be explored in future research. Examining the effect of liking on trust in strongest ties in the direction suggested above may help to extend the present findings.

In the third study, the results indicated that HK and UK business executives reported a tendency to be discerning in deciding who to trust, particularly who they believed to be honest. A relevant question is whether both groups of business executives would be discerning to trust those ties whom they like, and those who like them. Since the

present operationalisation of the measure of Discretionary Trust did not include value statements about this aspect of discerning trust, the likelihood of liking being a potential confound is small in the present findings. Nevertheless, future research should include liking in the study design. Construct validity of Discretionary Trust and Ethical Trust by correlating with the Liking People Scale (Filsinger, 1981) was discussed in Section 7.3. The relevant question here is whether business executives trust those who are honest, who like them, and who are also liked, and dislike those who have questionable business practices. A good way forward in future research would be to create a new domain that taps into discerning trust values about choosing to do business with people who like business executives, and who are liked by them. For example, items can be phrased as “I trust those people who like me”, “I trust people whom I like”, Further, personal liking and honesty may create the foundation for trust in business transactions. There is a possibility of honesty and liking feeding each other. Items such as “I trust people who are honest and like me”, and “I trust people who are honest and whom I like” would give us deeper understanding of the relationship between Discretionary Trust and Liking.

### 8.6 Research Achievements

The new developments achieved in this thesis include the postulated models of interpersonal trust and the business trust scale. Although the present models of trust were not final models, this thesis has made contributions to interpersonal trust research in four areas:

First, the framework provided by the model of trust construed as expectations of strong ties and weak ties provides a novel theoretical insight into the fundamental expectations influencing trust. Although the present research does not provide direct support for the hypothesised expectation of reciprocation of trust behaviours between egos and alters, it provides a theoretical foundation for understanding the meaning of trust in this dyadic context.

Second, the consideration of a relatively large number of antecedents of dyadic trust represents a contribution to research into similarity-attraction theory. Previous researchers have found positive associations between race similarity and trust (e.g., Pelled & Xin, 2000), attitude similarity and trust (e.g., Busch & Wilson, 1976; Nicholson, et al., 2001), and similarity in hobbies and close friendship (e.g., Johnson, 1989). This thesis integrated past research findings and examined possible antecedents of dyadic trust in strongest business relationships, and how the effects of these antecedents may be mediated by the construct of Relationship Association. The present study has thereby set a foundation for further studies.

Third, the simultaneous investigation of both business values and culture represents a novel contribution to trust research. There have been very few previous studies examining relationships between trust and culture. The present thesis attempted to explore associations between individualism and Discretionary Trust among UK and HK business executives, and showed different results in the two groups as predicted. Designing cross-cultural studies is often complicated and challenging due to the complexity of measuring cultural values. This thesis has also provided a foundation

for further studies by considering other cultural dimensions such as uncertainty avoidance.

Fourth, this thesis carries several practical contributions for the business world. The findings suggest recommendations for how UK business executives should build trust with their network contacts in business dealings within the UK and with HK counterparts. As business transactions are becoming more global, increased understanding of business executives' trust values and of factors that might produce dyadic trust in another culture is in demand. This thesis has set a foundation for further studies in China and other countries.

### 8.7 Future Research Directions

This thesis was exploratory in nature, but has laid the foundation for the development of future research related to dyadic trust between business executives and their strong and weak ties in networking contexts. Considerable future research is required in order to develop a thorough understanding of interpersonal trust in business dealings and to refine its measurement. The three studies presented in this thesis open several avenues for such research:

#### (1) Unwritten and explicit rules for communicating expectations

The present thesis found no evidence that business executives expected reciprocation of trusting behaviours such as honesty, reliability and discretion. The qualitative study by Gabarro (1978) showed that some mutual expectations between supervisors and

subordinates evolved tacitly and others were negotiated more or less explicitly (Gabarro 1978). Moreover, Larson's (1992) qualitative study pointed out that expectations were a set of implicit and explicit rules that began to emerge during the trial period when two firms in strategic alliance developed trust between each other. It is evident that unwritten and explicit rules serve as business norms that influence trust between actors and firms. To examine the influence of such expectations on trust between business executives and their strong ties and weak ties, a first step may be to examine the unwritten and explicit rules for communicating expectations of honesty, reliability and discretion, and reciprocation of trusting behaviours in business dealings.

### (2) Weak ties become strong ties

The present thesis has given some insight into the selection of strongest business ties with and without friendship. The next issue concerns the process whereby weak ties may sometimes become stronger. Blau (1964, p. 98) argues that trust is built up incrementally through a series of gradually increasing investments in the relationship that allow actors to demonstrate their trustworthiness to each other. Haas and Deseran (1981) build on Blau's view and suggest that trust may be created through the exchange of symbolic tokens such as invitations to eat or drink, gifts, and attendance at formal ceremonies or celebrations. These are called symbolic exchanges<sup>1</sup>. Haas and Deseran (1981, p.12) claim that "the use of symbolic exchange requires the existence of a standardised vocabulary of symbolic exchange", which is context-bound and depends on the type of relationship. This challenges us to examine other expectations

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<sup>1</sup> Haas and Deseran (1981) emphasise that symbolic exchange is a type of social exchange. In a symbolic exchange, the use of costly symbolic gestures or tokens, such as invitations to dinner parties,

of trusting behaviours, which may be at the symbolic level, between actors who have intentions to enter into or maintain certain types of relationship. When two actors mutually understand the intention of symbolic gestures, their relationship may incrementally change from a weak tie to a strong tie. In the present thesis, it is predicted that there might be expectations of a series of symbolic gestures to be exchanged between two actors, in addition to the fundamental expectations studied in this thesis.

### (3) Changes in trust over time

Since the inherent difference between strong ties and weak ties is strength of relationships, Part A of this thesis has shown that trust in strong ties is significantly higher than trust in weak ties. It is also conceivable that relationships with strong ties tend to be longer lasting than relationships with weak ties. A relevant research question concerns whether business trust values vary with the duration of relationships. Since “I expect honesty and reliability of my strong ties” positively correlates with Discretionary Trust, and “I expect honesty and reliability of my weak ties” negatively correlates with Ethical Trust, it will be worthwhile to conduct a further study to examine the moderating effect of duration of relationships on business trust values. This can be achieved by soliciting scores of trust values and duration of strong and weak relationships, or by longitudinal research.

### (4) Business friendship and social friendship

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in building trust may have little utilitarian value to the receiver. The balance of the exchange is

## Chapter 8

Section 5.3 and 8.2 pointed out that business friendship might differ from social friendship. This section discusses three possible areas of differences.

There is evidence that friends disclose more intimate and personal information than do acquaintances (Hays, 1984). Lea and Duck (1982, p. 302) quoted McCloskey's (1978) conclusion that "both the amount and type of self-referent information that subjects were willing to disclose were determined by trust in a close friend". A relevant question raised here is whether or not there are differences in disclosing personal information between business friendship and social friendship. Since self-disclosure was not covered in this thesis, measures of the extent of mutual confiding, and types and depths of self-disclosure are recommended for inclusion in the new construct capturing the emotional component of trust suggested in Chapter 5 in future studies.

In interpersonal attraction research, Aron et al. (1989) note that attraction is likely to occur among people who are seen as appropriate for the particular kind of relationship. Attraction is most common among age peers, among people of the same social class, and among people of whom one's friends approve. Moreover, research (such as Walster et al., 1977) has shown that pairs of friends and pairs of lovers tend to be matched in attractiveness. Being liked or admired by a reasonably attractive person seems to influence initial friendship formation (Aron et al., 1989). Further, the perception of greater similarity and mutual understanding are more important than actual shared attitudes and agreement (Levinger & Breedkove, 1966). There seems to be more scope for examination of differences and similarities between the effects of

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maintained at the symbolic level.

similarity or attraction in business friendships and social friendships. Exploring self-disclosure, physical attractiveness and perceived liking would be a starting point. Since measures of friendship formation include variables of self-disclosure (Fehr, 2000), we may expect that depth of self-disclosure in confidence would positively strengthen Relationship Association and therefore influence trust in strongest business ties with friendship, but self-disclosure would be deeper in close social friendship than strongest business friendship. Based on similarity-attraction theory, measures of perceived similarity in physical attractiveness and perceived liking may directly or indirectly influence trust in strongest business ties with or without friends. However, do these influences differ between strong business friendship and close social friendship? These questions can be addressed in future research.

### (5) Gender Effects on Trust

Aldrich and Sakano (1985) found that men had 90 percent of their advisor network ties being men. By contrast, only 40 percent of the advisor network ties of women were women. Thus, men were involved mainly in same-gender networks, whereas women tended to have cross-gender networks, dealing mostly with men but also with a high proportion of women. Aldrich et al. (1989) found that men had more opportunities for meeting higher status individuals (other males) than did women. In the context of trust, Smith's (1998) study of buyer-seller relationships shows that same-gender relationships are associated with greater trust and satisfaction than cross-gender relationships. Furthermore, past research suggests that women fall outside the "old boys' network" (Aldrich, 1989). Does this imply that women's relationships with their strongest ties are different from men's? In particular, are there differences in the

characteristics shared with the strongest ties of men and women? Are there also differences in the trust level between same-gender relationships and cross-gender relationships between women business owners and their strongest ties? There may also be gender differences in the type of people with whom women build strong business relationships, and hence the degree of similarity in characteristics may differ from that experienced by men.

Overall, there are two research directions that might extend the second study. The first involves identifying antecedents of trust in men's and women's networks, and the second involves investigating similarities and differences between strongest business friendship ties and close social friendship ties.

### (6) Trust Models in China

Although the dyadic trust models examined in the present thesis for UK business executives require further improvement, the findings have shed light on an area of research that has hardly been investigated in previous studies. Future research should explore trust models in mainland China, targeting business executives in cities such as Shanghai, Beijing, Guangzhou where business transactions with the UK are growing. Possible cultural influences on trust values and the importance of guanxi bases have been discussed at length in the preceding chapter and the present chapter. Comparing trust models between mainland and HK Chinese executives will help develop our understanding of sub-cultural differences and similarities in the factors influencing trust, possibly due to differences in the rule of law in HK and mainland China. This future research should result in practical recommendations for building trust with

## Chapter 8

Chinese – an important issue when China is widely regarded as being the next major economic power.

In summary, the empirical results and theoretical proposals presented in this thesis begin to reveal some patterns of trust values in business relationships. Much research still remains to be done. The challenge of recruiting business executives requires creative collaboration with professional institutes. I hope that the present thesis will serve to increase interest among business executives in participating in future studies.

Because of the lack of past studies exploring interpersonal trust in the context of strong and weak business relationships outside organisations, considerable effort has been put into the present research. Perhaps, this initial step provides us impetus to study trust models in other countries. While theoretical contributions are important, I feel that practical implications for the business community are equally important for application in real life.

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## Appendix A

### A.1 Normality Check of the Strong Ties Data (N = 110)

	min	max	skew	c.r.	kurtosis	c.r.
My STs expect reciprocation...	1.000	9.000	-0.244	-1.044	-0.883	-1.891
My STs expect mutual benefits	1.000	9.000	-0.525	-2.247	-0.635	-1.360
I expect discretion	3.000	9.000	-1.644	-7.040	3.248	6.954
I expect reliability	3.000	9.000	-0.885	-3.788	0.922	1.973
I expect honesty	3.000	9.000	-1.425	-6.102	3.325	7.118
I expect reciprocation...	1.000	9.000	-0.693	-2.967	-0.199	-0.427
I expect mutual benefits	1.000	9.000	-0.654	-2.801	0.112	0.240
My trust level with STs	3.000	9.000	-1.540	-6.592	4.716	10.097
My STs expect discretion	2.000	9.000	-2.903	-12.432	11.669	24.983
I think STs trust me	4.000	9.000	-1.421	-6.085	3.559	7.619
My STs expect reliability	1.000	9.000	-2.620	-11.216	13.017	27.868
My STs expect honesty	6.000	9.000	-1.133	-4.853	0.283	0.605
Multivariate					117.681	33.667

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
67	81.236	0.000	0.000
63	57.575	0.000	0.000
22	48.967	0.000	0.000
27	42.909	0.000	0.000
10	42.863	0.000	0.000
17	33.878	0.001	0.000

Note: Nonzero skewness is indicative of a departure from symmetry. Negative skewness shows a distribution with an elongated left-hand tail, whereas positive skewness shows a distribution with an elongated right-hand tail.

Kurtosis indicates the extent of which the height of the curve differs from that of the normal curve. Positive kurtosis indicates a distribution with long, thin tails, and negative kurtosis indicates shorter and fatter tails of the curve. A normal curve has a zero kurtosis.

Critical ratios (c.r.) that exceed +2.00 or that are smaller than -2.00 indicate statistically significant degrees of non-normality.

The p1 column shows that, assuming normality, the probability of  $d^2$  (for case 67) exceeding a value of 81.236 is  $< 0.000$ . The p2 column shows, still assuming normality, that the probability is still  $< 0.000$  that the largest  $d^2$  value for any individual case would exceed 81.236. Small numbers in the p1 column are expected. However, small numbers of p2 column indicate observations that are improbably far from the centroid under the hypothesis of normality (AMOS help menu).

## Appendix A

### A.2 Normality Check of the Weak Ties Data (N = 110)

	min	max	skew	c.r.	kurtosis	c.r.
My WTs expect reciprocation...	1.000	9.000	0.411	1.760	-0.317	-0.679
My WTs expect mutual benefits	1.000	9.000	0.246	1.055	-0.720	-1.542
I expect discretion	1.000	9.000	-0.116	-0.495	-0.912	-1.953
I expect reliability	1.000	9.000	0.241	1.034	0.066	0.142
I expect honesty	1.000	9.000	-0.249	-1.065	-0.633	-1.355
I expect reciprocation...	1.000	9.000	0.365	1.564	-0.407	-0.871
I expect mutual benefits	1.000	9.000	0.280	1.201	-0.373	-0.799
My trust level with WTs	1.000	9.000	-0.228	-0.978	-0.385	-0.824
My WTs expect discretion	1.000	9.000	-0.927	-3.971	0.135	0.290
I think WTs trust me	2.000	9.000	-0.482	-2.062	-0.305	-0.652
My WTs expect reliability	1.000	9.000	-1.047	-4.484	0.691	1.480
My WTs expect honesty	2.000	9.000	-1.175	-5.030	0.780	1.670
Multivariate					43.580	12.468

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
67	50.120	0.000	0.000
16	48.981	0.000	0.000

## Appendix A

### A.3 Normality Check of the Strong Ties Data after Deletion of Case 67 (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
My STs expect reciprocation...	1.000	9.000	-0.254	-1.081	-0.852	-1.815
My STs expect mutual benefits	1.000	9.000	-0.533	-2.274	-0.590	-1.256
I expect discretion	3.000	9.000	-1.636	-6.971	3.219	6.860
I expect reliability	3.000	9.000	-0.793	-3.380	0.771	1.644
I expect honesty	3.000	9.000	-1.440	-6.136	3.337	7.111
I expect reciprocation...	1.000	9.000	-0.695	-2.960	-0.143	-0.305
I expect mutual benefits	1.000	9.000	-0.648	-2.762	0.182	0.388
My trust level with STs	3.000	9.000	-1.541	-6.568	4.745	10.112
My STs expect discretion	2.000	9.000	-2.890	-12.317	11.566	24.648 #
I think STs trust me	4.000	9.000	-1.416	-6.034	3.557	7.581
My STs expect reliability	6.000	9.000	-0.752	-3.203	-0.275	-0.587
My STs expect honesty	6.000	9.000	-1.120	-4.776	0.253	0.540
Multivariate					74.787	21.298

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
63	57.605	0.000	0.000
22	48.523	0.000	0.000
10	42.845	0.000	0.000
27	42.758	0.000	0.000
17	34.676	0.001	0.000

Note on #: Case 63 was the extreme univariate outlier for the variable of ‘my STs expect discretion’. Whether or not recoding the score from 2 to 3 (one unit smaller than the next most extreme score according to Tabachnick and Fidell 1996) did not affect the path coefficients in the testing of the theoretical model of trust using structural equation modelling. If it were recoded to 3, the univariate skewness of the variable would be slightly reduced from  $-2.890$  to  $-2.498$  and its univariate kurtosis reduced from  $11.566$  to  $8.129$ . Moreover, since case 63 was a multivariate outlier on two sets of scatter plots, changing the score was viewed to an inappropriate. It was decided to leave the score at 2.

## Appendix A

### A.4 Normality Check of the Weak Ties Data after Deletion of Case 67 (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
My WTs expect reciprocation...	1.000	9.000	0.410	1.746	-0.300	-0.640
My WTs expect mutual benefits	1.000	9.000	0.242	1.032	-0.707	-1.507
I expect discretion	1.000	9.000	-0.105	-0.450	-0.913	-1.945
I expect reliability	1.000	9.000	0.283	1.206	0.089	0.189
I expect honesty	1.000	9.000	-0.206	-0.878	-0.689	-1.468
I expect reciprocation...	1.000	9.000	0.364	1.551	-0.390	-0.831
I expect mutual benefits	1.000	9.000	0.285	1.214	-0.351	-0.748
My trust level with WTs	1.000	9.000	-0.212	-0.903	-0.361	-0.769
My WTs expect discretion	2.000	9.000	-0.813	-3.465	-0.300	-0.639
I think WTs trust me	2.000	9.000	-0.398	-1.696	-0.489	-1.042
My WTs expect reliability	1.000	9.000	-0.963	-4.104	0.445	0.948
My WTs expect honesty	2.000	9.000	-1.164	-4.963	0.757	1.613
Multivariate					31.288	8.910

Observations farthest from the centroid (Mahalanobis distance)

<u>Observation</u> <u>number</u>	<u>Mahalanobis</u> <u>d-squared</u>	<u>p1</u>	<u>p2</u>
16	48.563	0.000	0.000

## Appendix A

### A.5 AMOS Output of Fit Measures of the Estimated Factor Structure Model of Strong Ties

<u>Fit Measure</u>	<u>Model</u>	<u>Saturated</u>	<u>Independence</u>
Discrepancy	<b>37.758</b>	0.000	589.932
Degrees of freedom	<b>31</b>	0	45
P	<b>0.188</b>		0.000
Number of parameters	24	55	10
Discrepancy / df	1.218		13.110
RMR	0.207	0.000	1.087
GFI	0.942	1.000	0.429
Adjusted GFI	0.897		0.302
Parsimony-adjusted GFI	0.531		0.351
Normed fit index	0.936	1.000	0.000
Relative fit index	0.907		0.000
Incremental fit index	0.988	1.000	0.000
Tucker-Lewis index	0.982		0.000
Comparative fit index	0.988	1.000	0.000
Parsimony ratio	0.689	0.000	1.000
Parsimony-adjusted NFI	0.645	0.000	0.000
Parsimony-adjusted CFI	0.680	0.000	0.000
Noncentrality parameter estimate	6.758	0.000	544.932
NCP lower bound	0.000	0.000	470.248
NCP upper bound	26.471	0.000	627.055
FMIN	0.350	0.000	5.462
F0	0.063	0.000	5.046
F0 lower bound	0.000	0.000	4.354
F0 upper bound	0.245	0.000	5.806
RMSEA	0.045		0.335
RMSEA lower bound	0.000		0.311
RMSEA upper bound	0.089		0.359
P for test of close fit	0.534		0.000
Akaike information criterion (AIC)	85.758	110.000	609.932
Browne-Cudeck criterion	91.201	122.474	612.200
Bayes information criterion	205.612	384.666	659.871
Consistent AIC	174.350	313.024	646.845
Expected cross validation index	0.794	1.019	5.648
ECVI lower bound	0.731	1.019	4.956
ECVI upper bound	0.977	1.019	6.408
MECVI	0.844	1.134	5.669
Hoelter .05 index	129		12
Hoelter .01 index	150		13

A.6 AMOS Table Output for the Estimated Factor Structure Model of Strong Ties (380 bootstrap samples after 1,000 Samples)

Regression Weights		Bootstrap (see Interpretation of the AMOS Output Figures below)			
		Estimate	S.E.	C.R.	P
Honesty	<-- STs Expect of me	1.062	0.086	12.293	0.000
Reliability	<-- STs Expect of me	1.000			
Discretion	<-- STs Expect of me	1.020	0.109	9.371	0.000
Mutual Bene.	<-- I Expect of STs	1.000			
Reciprocation	<-- I Expect of STs	1.394	0.200	6.955	0.000
Honesty	<-- I Expect of STs	0.985	0.173	5.689	0.000
Reliability	<-- I Expect of STs	1.000			
Discretion	<-- I Expect of STs	0.945	0.176	5.357	0.000
Mutual Bene.	<-- STs Expect of me	1.000			
Reciprocation	<-- STs Expect of me	1.023	0.093	10.941	0.000

Standardized Regression Weights

	Estimate	SE	SE-SE Mean	Bias	SE-Bias	
Honesty	0.917	0.039	0.001	0.912	-0.005	0.002
Reliability	0.886	0.041	0.001	0.888	0.002	0.002
Discretion	0.739	0.065	0.002	0.752	0.013	0.003
Mutual Bene.	0.711	0.089	0.003	0.707	-0.004	0.005
Reciprocation	0.832	0.054	0.002	0.839	0.007	0.003
Honesty	0.702	0.130	0.005	0.698	-0.004	0.007
Reliability	<b>0.658</b>	0.097	0.004	0.651	-0.007	0.005
Discretion	0.672	0.076	0.003	0.691	0.019	0.004
Mutual Bene.	0.896	0.049	0.002	0.898	0.002	0.003
Reciprocation	0.906	0.043	0.002	0.906	0.001	0.002

Covariances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias
I Expect of STs	<--> STs Expect of me	2.131	0.433	4.916	0.000	0.429	0.016	2.090	-0.040	0.022
I Expect of STs	<--> I Expect of STs	0.260	0.097	2.681	0.007	0.120	0.004	0.237	-0.024	0.006
STs Expect of me	<--> I Expect of STs	<b>0.423</b>	0.099	4.290	0.000	0.127	0.005	0.422	-0.001	0.007
E5	<--> E11	-0.175	0.048	-3.639	0.000	0.068	0.002	-0.169	0.006	0.004
Correlations		Estimate	SE	SE-SE	Mean	Bias	SE-Bias			
I Expect of STs	<--> STs Expect of me	0.801	0.072	0.003	0.796	-0.005	0.004			
I Expect of STs	<--> I Expect of STs	0.253	0.117	0.004	0.240	-0.013	0.006			
STs Expect of me	<--> I Expect of STs	<b>0.663</b>	0.128	0.005	0.670	0.006	0.007			
E5	<--> E11	-0.570	0.202	0.007	-0.587	-0.017	0.010			
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias
STs	Expect of me	<b>0.611</b>	0.108	5.656	0.000	0.107	0.004	0.610	-0.002	0.005
I	Expect of STs	1.585	0.404	3.924	0.000	0.471	0.017	1.603	0.018	0.024
I	Expect of STs	<b>0.667</b>	0.193	3.459	0.001	0.240	0.009	0.671	0.004	0.012
STs	Expect of me	4.463	0.801	5.574	0.000	0.791	0.029	4.427	-0.036	0.041
E3		<b>0.872</b>	0.149	5.863	0.000	0.196	0.007	0.857	-0.015	0.010
E4		0.666	0.123	5.417	0.000	0.318	0.012	0.651	-0.014	0.016
E5		0.722	0.132	5.482	0.000	0.197	0.007	0.669	-0.053	0.010
E6		1.551	0.271	5.720	0.000	0.440	0.016	1.549	-0.002	0.023
E7		1.372	0.380	3.612	0.000	0.406	0.015	1.290	-0.082	0.021
E8		1.099	0.336	3.272	0.001	0.445	0.016	1.031	-0.068	0.023
E9		1.023	0.344	2.974	0.003	0.444	0.016	0.990	-0.033	0.023
E10		0.168	0.039	4.354	0.000	0.051	0.002	0.159	-0.009	0.003
E11		0.130	0.042	3.126	0.002	0.054	0.002	0.132	0.002	0.003
E12		0.530	0.080	6.603	0.000	0.258	0.009	0.518	-0.011	0.013

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias
STs Expect Reliability	0.820	0.077	0.003	0.823	0.003	0.004
STs Expect Mutual Benefits	0.802	0.087	0.003	0.808	0.006	0.004
I Expect Discretion	0.452	0.106	0.004	0.483	0.031	0.005
I Expect Reliability	<b>0.433</b>	0.125	0.005	0.434	0.000	0.006
I Expect Honesty	0.493	0.178	0.006	0.504	0.011	0.009
I Expect Recip'n of Favours	0.692	0.089	0.003	0.707	0.015	0.005
I Expect Mutual Benefits	0.506	0.125	0.005	0.508	0.002	0.006
STs Expect Discretion	0.546	0.097	0.004	0.570	0.024	0.005
STs Expect Reliability	0.785	0.071	0.003	0.790	0.005	0.004
STs Expect Honesty	0.841	0.070	0.003	0.834	-0.007	0.004

Bollen-Stine Bootstrap

The model fit better in 387 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 613 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.39$

Bootstrap Distributions

	10.394	*
	17.335	****
	24.275	*****
ML discrepancy	31.216	*****
(implied vs sample)	38.157	*****
	45.098	*****
	52.039	*****
N = 1000	58.980	***
Mean = <b>36.4987</b>	65.921	**
S. e. = 0.382145	72.861	*
	79.802	*
	86.743	*
	93.684	
	100.625	*
	107.566	*

Note: The bolded figures are explained in the following pages.

### A.7 Interpretation of the AMOS Output Figures

For the benefit of the readers, I summarise below a few key concepts in interpreting the output figures. Reference to Figure 3.1 (in Chapter 3) and A.6 above is required. Without going into the matrix algebra, we start with the ten structural equations for the model of strong ties using the path diagram in Figure 3.1 as follows:

$$X1 = F1 + E3 \text{ (where a was fixed to the value of 1 for scaling purpose)}$$

$$X2 = bF1 + E4$$

$$X3 = cF1 + E5$$

$$X4 = F2 + E6 \text{ (where d = 1)}$$

$$X5 = eF2 + E7$$

$$X6 = F3 + E8 \text{ (where f = 1)}$$

$$X7 = gF3 + E9$$

$$X8 = F4 + E10 \text{ (where h = 1)}$$

$$X9 = iF4 + E11$$

$$X10 = jF4 + E12$$

The path coefficients of all residual errors and one path in each latent factor were fixed to 1 for scaling purpose. In the hypothesised model (Figure 3.1), there were totally 24 parameters to be estimated. In the saturated model, there were 55 free parameters to be estimated, which was the same number of variances and covariances (also called moments) in the covariance matrix. Hence, there are  $55 - 24 = 31$  degrees of freedom in the hypothesised model. Moreover, the saturated model has no constraints and is just-determined<sup>1</sup> and will always fit the sample data perfectly. As a result,  $\chi^2 = 0.0$  with zero degree of freedom.

#### z Test Statistic (C. R.)

The test statistics for statistical significance of parameter estimates is the critical ratio (C.R. shown in A.6, for example). It represents the parameter estimate divided by its standard error. The critical ratio is the z test statistic in testing that the estimate is statistically different from zero, which is the null hypothesis: the population mean equals zero. Based on a level of 0.05, the z test statistic must be  $> + 1.96$  or  $- 1.96$  before the hypothesis that the estimate equals 0.0 can be rejected (Byrne 2001). In other words, the critical ratio is the z-score. The *p* value is the probability of a z test

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<sup>1</sup> Loehlin (1998) explains the concepts of underdetermined, over-determined, and just-determined path diagrams. He notes that over-determined path diagrams, where there are more equations than the number of the unknown values to be estimated, are better than just-determined path diagrams, where there are equal numbers of equations and unknown values to give an exact solution. "The reason is that the data of the behavioural scientist typically contain sampling and measurement error, and an exact fit to these data is an exact fit to the error as well as the truth they contain. If we assume that errors are more or less random, a best overall fit to the redundant data of an over-determined path diagram will usually provide a better approximation to the underlying true population values" (Loehlin, 1998, p. 16). In essence, there were ten observed variables in Figure 3.1. In a saturated model, there were fifty-five ( $10 \times 11 / 2 = 55$ ) parameters to be estimated and all the observed variables were intercorrelated. Since there were equal numbers of variances and covariances in the covariance matrix, the saturated model was just-determined. In order to obtain an over-determined model, we put restrictions in the model by assuming independence between some variables in order to specify a hypothesised model and to obtain less than 55 parameters to be estimated. In AMOS, this is done by specifying the path between variables.

## Appendix A

statistic value at least as many standard errors distant from the hypothesised population mean that equals zero. Small value of  $p$  ( $< 0.05$ ) indicates evidence against the null hypothesis. This significant test for the population mean assumes that the sample size is at least 30 (Agresti & Finlay, 1997, p. 159-161).

### The Bootstrapped Estimate of the Standard Error

In A.6 above and A.9 below, additional columns appear under the subheading of Bootstrap. The meanings of each column figure are briefly explained as follows:

#### SE

This is the standard error estimated by the bootstrap procedure. It is the standard deviation of the parameter estimates computed across the bootstrap samples. They are usually larger than the standard error estimated without the bootstrap procedure.

#### SE-SE

This is the approximate standard error of the bootstrap standard error estimate itself. These figures are usually small.

#### Mean

This represents the average estimate computed across the bootstrap samples. This bootstrap mean is not necessarily identical to the original estimate.

#### Bias

This gives the difference between the bootstrap mean and the original estimate. If the average estimate of the bootstrap samples is higher than the original estimate, the Bias will be positive.

#### SE-Bias

This gives the approximate standard error of the bias estimate.

The bootstrapped standard error is usually bigger than the original standard error before the bootstrap procedure. A bootstrapped critical ratio was computed in order to test for significant estimates. Figure 3.2 and Figure 3.3 in Chapter 3 show the standardised path coefficients and the error variances.

### An example to Demonstrate the Use of the New Critical Ratio to test for Significance

In A.9 below, the bootstrap standard error of the covariance between F1 and F2 was 0.290 and the bootstrap estimate of the covariance was 0.504. Hence, the bootstrapped C. R. was  $0.504 / 0.290 = 1.74$  (the z-score). Reading from the table of the normal curve tail probabilities in a statistics text book such as Agresti and Finlay (1997, p. 668), we have the  $p$  value of 0.08, which is bigger than the test level of 0.05. Therefore, the covariance and the correlation between F1 and F2 were not significant.

## Appendix A

### Correlation

The correlation between the latent variables F1 and F4 is the standardised covariance, which is the covariance divided by the standard deviations of F1 and F4. In A.6, we have the following computation:

S.D. of F1 = square root of the variance of F1 = square root of **0.667** = 0.817

S.D. of F4 = square root of **0.611** = 0.782

Covariance between F1 and F4 = **0.423**

Hence, the correlation of F1 and F4 =  $0.423 / (0.817 * 0.782) = \mathbf{0.663}$

### Relationship between Square Multiple Correlation ( $R^2$ ) of an Observed Variable, Variance of Latent Variable and Error Variance

In A.6, variance of reliability (X1) = variance of F1 + error variance E3 = **0.667** + **0.872** = 1.539

Square multiple correlation of reliability X1 =  $\frac{\text{Variance of F1}}{\text{Variance of reliability X1}} = \frac{0.667}{1.539} = 0.43$

Hence, the proportion of the variance of reliability X1 accounted for by the factor F1 was 43% (**0.433** in A.6). In traditional factor analytic terminology, this is the communality ( $h^2$ ) (Loehlin, 1998, p. 20).

### Standardised and Unstandardised Path Coefficients

To convert an unstandardised (raw score) path coefficient to standardised form, it is to multiply the raw score by the ratio of the standard deviations of its tail to its head variable (Loehlin, 1998, p. 29).

The standardised path (a) from F1 to X1 = raw score of 1 \*  $\frac{\text{S. D. of F1}}{\text{S. D. of X1}}$   
= square root of 0.43  
= 0.66 (**0.658** in A.6)

In this sense, the square root of  $R^2$  of a variable gives the standardised path coefficient of the path to itself via the factor (Loehlin, 1998, p. 20).

In factor analytic terminology, the standardised path coefficients are the factor loadings.

Bollen-Stine Bootstrap and Associated Test of Overall Model Fit

In addition to a comparison of the original maximum likelihood (ML) and the bootstrap ML parameter estimates, Bollen and Stine (1993) suggest the Bollen-Stine bootstrapped  $p$  value to testing the null hypothesis that the specified model is accepted. The Bollen-Stine bootstrap option in AMOS provides a modified bootstrap method for the  $\chi^2$  goodness of fit statistic (Byrne 2001). This method deals with non-normal data by computing a new critical  $\chi^2$  value for the  $\chi^2$  test of model fit.

In the factor structure with strong ties (A.5 above), the obtained  $\chi^2$  value of **37.76** was compared to the expected  $\chi^2$  value of model fit of **31** (which was equal to the model's degree of freedom) at a  $p$  value of **0.19** under the assumption of multivariate normal distribution. Using the Bollen-Stine bootstrap method, we compare the bootstrap critical  $\chi^2$  value<sup>2</sup> of model fit of **36.50** (A.6) to the obtained  $\chi^2$  value of 37.76. AMOS computed the Bollen-Stine bootstrap  $p$  value<sup>3</sup> of **0.39** associated with the hypothesis test of the model being correct. At the usual 0.05 level of significant test, the Bollen-Stine bootstrap  $p$  value of 0.39 is not statistically significant and the present estimated model in Figure 3.2 is accepted under the Bollen-Stine bootstrap procedure.

Similarly, the Bollen-Stine bootstrap  $p$  value is 0.21 for the factor structure of the weak ties (A.9). The estimated model in Figure 3.3 is also accepted under the Bollen-Stine bootstrap procedure.

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<sup>2</sup> How is the bootstrap critical  $\chi^2$  value generated? For each bootstrap sample, a critical  $\chi^2$  value is computed from a central  $\chi^2$  distribution assuming that the null hypothesis is true or the fitted model is true. Each critical  $\chi^2$  value is saved in the program for each bootstrap sample. At the end of the bootstrap sampling (that is 1,000 in the present case), the bootstrap program collects all the critical  $\chi^2$  values and computes their mean. This mean value is the bootstrap critical  $\chi^2$  value. In AMOS output, it is the ML discrepancy of the bootstrap distributions represented in the form of a histogram. The discrepancy is that between the unrestricted sample covariance  $S$  and the restricted (or fitted) covariance matrix  $\Sigma(\theta)$  (Byrne, 2001).

<sup>3</sup> The Bollen-Stine bootstrap  $p$  value is the number of bootstrap samples that the model fits better divided by the initial requested number of bootstrap samples. In the present case,  $387 / 1000 = 0.39$ .

Appendix A

A.8 AMOS Output of Fit Measures of the Estimated Factor Structure Model of Weak Ties

Fit Measure	Model	Saturated	Independence
Discrepancy	42.638	0.000	642.038
Degrees of freedom	31	0	45
P	0.080		0.000
Number of parameters	24	55	10
Discrepancy / df	1.375		14.268
RMR	0.340	0.000	1.357
GFI	0.928	1.000	0.442
Adjusted GFI	0.873		0.318
Parsimony-adjusted GFI	0.523		0.362
Normed fit index	0.934	1.000	0.000
Relative fit index	0.904		0.000
Incremental fit index	0.981	1.000	0.000
Tucker-Lewis index	0.972		0.000
Comparative fit index	0.981	1.000	0.000
Parsimony ratio	0.689	0.000	1.000
Parsimony-adjusted NFI	0.643	0.000	0.000
Parsimony-adjusted CFI	0.675	0.000	0.000
Noncentrality parameter estimate	11.638	0.000	597.038
NCP lower bound	0.000	0.000	518.831
NCP upper bound	32.901	0.000	682.677
FMIN	0.395	0.000	5.945
F0	0.108	0.000	5.528
F0 lower bound	0.000	0.000	4.804
F0 upper bound	0.305	0.000	6.321
RMSEA	0.059		0.350
RMSEA lower bound	0.000		0.327
RMSEA upper bound	0.099		0.375
P for test of close fit	0.343		0.000
Akaike information criterion (AIC)	90.638	110.000	662.038
Browne-Cudeck criterion	96.081	122.474	664.306
Bayes information criterion	210.492	384.666	711.977
Consistent AIC	179.230	313.024	698.951
Expected cross validation index	0.839	1.019	6.130
ECVI lower bound	0.731	1.019	5.406
ECVI upper bound	1.036	1.019	6.923
MECVI	0.890	1.134	6.151
Hoelter .05 index	114		11
Hoelter .01 index	133		12

Figure A.9 AMOS Table Output for the Estimated Factor Structure Model of Weak Ties (210 bootstrap samples after 1,000 Samples)

Regression Weights											
		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias		
Honesty	<--	WTs Expect of me	1.055	0.097	10.856	0.000	0.094	0.005	1.048	-0.007	0.007
Reliability	<--	WTs Expect of me	1.000				0.000	0.000	1.000	0.000	0.000
Discretion	<--	WTs Expect of me	0.729	0.097	7.480	0.000	0.148	0.007	0.742	0.013	0.010
Mutual Bene.	<--	I Expect of WTs	1.000				0.000	0.000	1.000	0.000	0.000
Reciprocation	<--	I Expect of WTs	1.100	0.213	5.174	0.000	0.330	0.016	1.180	0.080	0.023
Honesty	<--	I Expect of WTs	1.220	0.147	8.287	0.000	0.155	0.008	1.246	0.026	0.011
Reliability	<--	I Expect of WTs	1.000				0.000	0.000	1.000	0.000	0.000
Discretion	<--	I Expect of WTs	1.335	0.164	8.135	0.000	0.222	0.011	1.391	0.056	0.015
Mutual Bene.	<--	WTs Expect of me	1.000				0.000	0.000	1.000	0.000	0.000
Reciprocation	<--	WTs Expect of me	1.014	0.112	9.072	0.000	0.131	0.006	1.011	-0.003	0.009
Standardized Regression Weights											
		Estimate									
Honesty	<--	WTs Expect of me	0.967								
Reliability	<--	WTs Expect of me	0.851								
Discretion	<--	WTs Expect of me	0.621								
Mutual Bene.	<--	I Expect of WTs	0.730								
Reciprocation	<--	I Expect of WTs	0.825								
Honesty	<--	I Expect of WTs	0.829								
Reliability	<--	I Expect of WTs	0.772								
Discretion	<--	I Expect of WTs	0.793								
Mutual Bene.	<--	WTs Expect of me	0.897								
Reciprocation	<--	WTs Expect of me	0.981								
			SE	SE-SE Mean	Bias	SE-Bias					
Honesty			0.041	0.002	0.964	-0.003	0.003				
Reliability			0.044	0.002	0.854	0.003	0.003				
Discretion			0.103	0.005	0.627	0.006	0.007				
Mutual Bene.			0.121	0.006	0.726	-0.004	0.008				
Reciprocation			0.108	0.005	0.842	0.017	0.007				
Honesty			0.047	0.002	0.827	-0.002	0.003				
Reliability			0.063	0.003	0.763	-0.009	0.004				
Discretion			0.054	0.003	0.798	0.005	0.004				
Mutual Bene.			0.063	0.003	0.903	0.006	0.004				
Reciprocation			0.058	0.003	0.977	-0.004	0.004				

## Covariances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias
I Expect of WTs<--> WTs Expect of me	1.535	0.430	3.568	0.000	0.455	0.022	1.529	-0.006	0.031
I Expect of WTs<--> I Expect of WTs	0.525	0.207	2.537	0.011	<b>0.290</b>	0.014	<b>0.504</b>	-0.021	0.020
WTs Expect of me<-->I Expect of WTs	1.050	0.267	3.934	0.000	0.307	0.015	1.058	0.008	0.021
E5 <--> E12	0.925	0.242	3.828	0.000	0.280	0.014	0.899	-0.026	0.019

## Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias
I Expect of WTs<--> WTs Expect of me	0.514	0.129	0.006	0.526	0.012	0.009
I Expect of WTs<--> I Expect of WTs	0.270	0.124	0.006	0.257	-0.013	0.009
WTs Expect of me<-->I Expect of WTs	0.499	0.109	0.005	0.511	0.012	0.008
E5 <--> E12	0.467	0.111	0.005	0.475	0.008	0.008

## Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias
WTs Expect of me	2.385	0.460	5.187	0.000	0.443	0.022	2.388	0.003	0.031
I Expect of WTs	2.036	0.572	3.559	0.000	0.699	0.034	2.034	-0.002	0.048
I Expect of WTs	1.854	0.413	4.485	0.000	0.479	0.023	1.824	-0.030	0.033
WTs Expect of me	4.379	0.844	5.189	0.000	0.909	0.044	4.393	0.015	0.063
E3	1.254	0.229	5.477	0.000	0.264	0.013	1.252	-0.001	0.018
E4	1.258	0.279	4.514	0.000	0.274	0.013	1.228	-0.029	0.019
E5	1.948	0.386	5.042	0.000	0.422	0.021	1.876	-0.072	0.029
E6	1.786	0.422	4.232	0.000	0.713	0.035	1.733	-0.053	0.049
E7	1.159	0.446	2.599	0.009	0.642	0.031	0.997	-0.163	0.044
E8	1.064	0.453	2.347	0.019	0.589	0.029	0.941	-0.122	0.041
E9	0.177	0.443	0.401	0.688	0.520	0.025	0.208	0.030	0.036
E10	0.905	0.203	4.450	0.000	0.257	0.013	0.870	-0.035	0.018
E11	0.182	0.181	1.009	0.313	0.211	0.010	0.185	0.003	0.015
E12	2.013	0.290	6.948	0.000	0.442	0.022	1.934	-0.079	0.031

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias
WTs expect reciprocaton	0.962	0.114	0.006	0.958	-0.004	0.008
WTs expect mutual benefits	0.805	0.114	0.006	0.819	0.015	0.008
I expect discretion	0.629	0.085	0.004	0.640	0.011	0.006
I expect reliability	0.597	0.093	0.005	0.587	-0.010	0.006
I expect honesty	0.687	0.078	0.004	0.687	0.000	0.005
I expect reciprocaton	0.680	0.181	0.009	0.720	0.040	0.013
I expect mutual benefits	0.533	0.183	0.009	0.541	0.009	0.013
WTs expect discretion	0.386	0.126	0.006	0.404	0.018	0.009
WTs expect reliability	0.725	0.074	0.004	0.732	0.007	0.005
WTs expect honesty	0.936	0.079	0.004	0.931	-0.005	0.005

Bollen-Stine Bootstrap

The model fit better in 210 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 790 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.210789$

Bootstrap Distributions

	11.625	*	-----
	16.744	*****	
	21.863	*****	
ML discrepancy	26.983	*****	
(implied vs sample)	32.102	*****	
	37.222	*****	
	42.341	*****	
N = 1000	47.461	*****	
Mean = 34.8541	52.580	****	
S. e. = 0.36653	57.699	***	
	62.819	**	
	67.938	**	
	73.058	*	
	78.177	*	
	83.296	*	-----

Appendix A

A.10 AMOS Output of Fit Measures of the Estimated Trust Model of Strong Ties

Fit Measure	Model	Saturated	Independence
Discrepancy	21.653	0.000	398.979
Degrees of freedom	18	0	28
P	0.248		0.000
Number of parameters	18	36	8
Discrepancy / df	1.203		14.249
RMR	0.059	0.000	0.424
GFI	0.952	1.000	0.413
Adjusted GFI	0.903		0.245
Parsimony-adjusted GFI	0.476		0.321
Normed fit index	0.946	1.000	0.000
Relative fit index	0.916		0.000
Incremental fit index	0.990	1.000	0.000
Tucker-Lewis index	0.985		0.000
Comparative fit index	0.990	1.000	0.000
Parsimony ratio	0.643	0.000	1.000
Parsimony-adjusted NFI	0.608	0.000	0.000
Parsimony-adjusted CFI	0.637	0.000	0.000
Noncentrality parameter estimate	3.653	0.000	370.979
NCP lower bound	0.000	0.000	310.108
NCP upper bound	19.581	0.000	439.292
FMIN	0.200	0.000	3.694
F0	0.034	0.000	3.435
F0 lower bound	0.000	0.000	2.871
F0 upper bound	0.181	0.000	4.068
RMSEA	0.043		0.350
RMSEA lower bound	0.000		0.320
RMSEA upper bound	0.100		0.381
P for test of close fit	0.523		0.000
Akaike information criterion (AIC)	57.653	72.000	414.979
Browne-Cudeck criterion	60.926	78.545	416.434
Bayes information criterion	143.527	243.748	453.146
Consistent AIC	124.097	204.889	444.510
Expected cross validation index	0.534	0.667	3.842
ECVI lower bound	0.500	0.667	3.279
ECVI upper bound	0.681	0.667	4.475
MECVI	0.564	0.727	3.856
Hoelter .05 index	144		12
Hoelter .01 index	174		14

## A.11 AMOS Table Output for the Estimated Trust Model of Strong Ties (270 Bootstrap Samples after 600 Samples)

		Bootstrap				
Regression Weights		SE	SE-SE Mean	Bias	SE-Bias	
Honesty	<-- STs Expect of me	0.046	0.002	1.056	-0.004	0.003
Reliability	<-- STs Expect of me	0.000	0.000	1.000	0.000	0.000
Think STs trust me	<-- STs Expect of me	0.162	0.007	0.586	-0.018	0.010
Discretion	<-- STs Expect of me	0.150	0.006	1.006	-0.014	0.009
Trust level with STs	<-- I Expect of STs	0.234	0.010	0.739	-0.004	0.014
Honesty	<-- I Expect of STs	0.231	0.010	1.129	-0.008	0.014
Reliability	<-- I Expect of STs	0.000	0.000	1.000	0.000	0.000
Discretion	<-- I Expect of STs	0.232	0.010	0.950	0.074	0.014
		Bootstrap				
Standardized Regression Weights		SE	SE-SE Mean	Bias	SE-Bias	
Honesty	<-- STs Expect of me	0.033	0.001	0.907	-0.005	0.002
Reliability	<-- STs Expect of me	0.038	0.002	0.888	-0.002	0.002
Think STs trust me	<-- STs Expect of me	0.109	0.005	0.508	-0.020	0.007
Discretion	<-- STs Expect of me	0.064	0.003	0.753	0.010	0.004
Trust level with STs	<-- I Expect of STs	0.123	0.005	0.570	-0.027	0.007
Honesty	<-- I Expect of STs	0.131	0.006	0.758	-0.019	0.008
Reliability	<-- I Expect of STs	0.096	0.004	0.626	-0.006	0.006
Discretion	<-- I Expect of STs	0.087	0.004	0.625	0.027	0.005
		Covariances				
Covariances		Estimate	S.E.	C.R.	P	
STs Expect of me	<--> I Expect of STs	0.457	0.103	4.424	0.000	
E5	<--> E11	-0.175	0.049	-3.560	0.000	

## Correlations

	Estimate	SE	SE-SE Mean	Bias	SE-Bias	
STs Expect of me<-->I Expect of STs	0.732	0.113	0.005	0.727	-0.005	0.007
E5 <--> E11	-0.503	0.138	0.006	-0.525	-0.022	0.008

## Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	
STs Expect of me	0.618	0.107	5.760	0.000	0.109	0.005	0.606	-0.013	0.007
I Expect of STs	0.632	0.190	3.333	0.001	0.239	0.010	0.634	0.002	0.015
E3	0.949	0.152	6.255	0.000	0.194	0.008	0.924	-0.024	0.012
E4	0.536	0.112	4.770	0.000	0.315	0.014	0.557	0.021	0.019
E5	0.870	0.138	6.328	0.000	0.253	0.011	0.813	-0.057	0.015
E10	0.161	0.035	4.568	0.000	0.045	0.002	0.157	-0.004	0.003
E11	0.139	0.038	3.649	0.000	0.047	0.002	0.141	0.003	0.003
E12	0.523	0.079	6.617	0.000	0.244	0.010	0.494	-0.029	0.015
E1	0.630	0.098	6.447	0.000	0.105	0.005	0.612	-0.019	0.006
E2	0.581	0.082	7.129	0.000	0.098	0.004	0.561	-0.020	0.006

## Squared Multiple Correlations

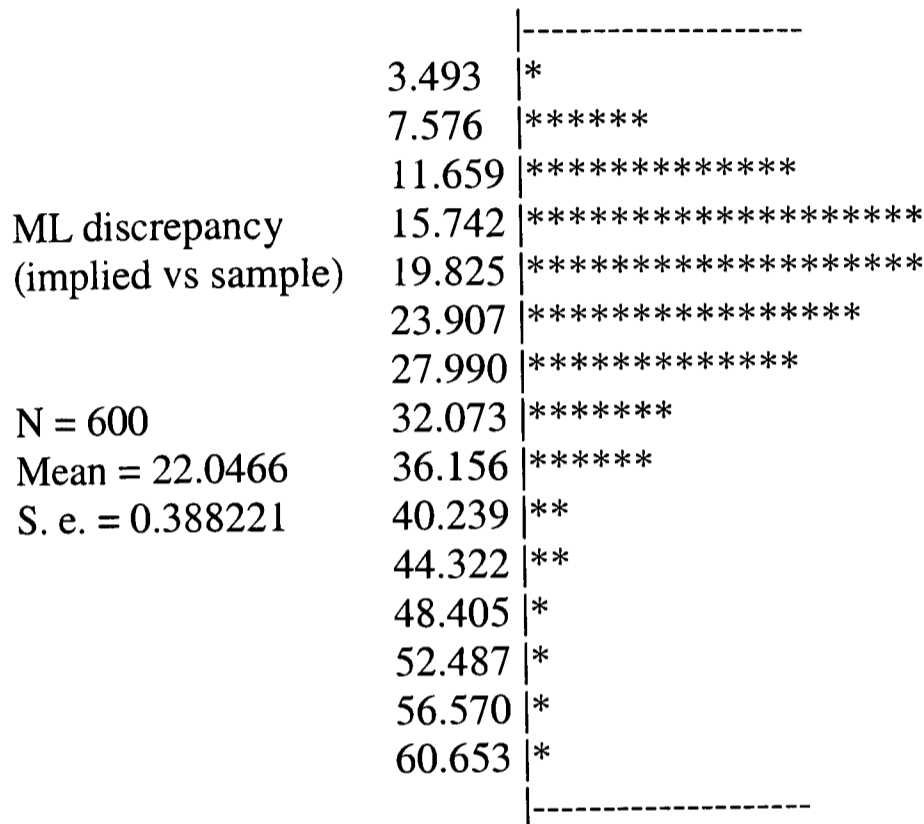
	Estimate	SE	SE-SE Mean	Bias	SE-Bias	
I expect discretion	0.358	0.109	0.005	0.399	0.041	0.007
I expect reliability	0.400	0.119	0.005	0.401	0.001	0.007
I expect honesty	0.604	0.190	0.008	0.592	-0.012	0.012
My trust level with STs	0.356	0.134	0.006	0.340	-0.016	0.008
STs expect discretion	0.552	0.096	0.004	0.571	0.020	0.006
I think STs trust me	0.279	0.105	0.005	0.270	-0.009	0.006
STs expect reliability	0.794	0.067	0.003	0.791	-0.003	0.004
STs expect honesty	0.833	0.059	0.003	0.825	-0.009	0.004

Bollen-Stine Bootstrap

The model fit better in 272 bootstrap samples.  
 It fit about equally well in 0 bootstrap samples.  
 It fit worse or failed to fit in 328 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.454243$

Bootstrap Distributions



Appendix A

A.12 AMOS Output of Fit Measures of the Estimated Trust Model of Weak Ties

Fit Measure	Model	Saturated	Independence
Discrepancy	15.886	0.000	463.666
Degrees of freedom	15	0	28
P	0.390		0.000
Number of parameters	21	36	8
Discrepancy / df	1.059		16.559
RMR	0.133	0.000	1.445
GFI	0.967	1.000	0.403
Adjusted GFI	0.922		0.232
Parsimony-adjusted GFI	0.403		0.313
Normed fit index	0.966	1.000	0.000
Relative fit index	0.936		0.000
Incremental fit index	0.998	1.000	0.000
Tucker-Lewis index	0.996		0.000
Comparative fit index	0.998	1.000	0.000
Parsimony ratio	0.536	0.000	1.000
Parsimony-adjusted NFI	0.517	0.000	0.000
Parsimony-adjusted CFI	0.535	0.000	0.000
Noncentrality parameter estimate	0.886	0.000	435.666
NCP lower bound	0.000	0.000	369.579
NCP upper bound	14.737	0.000	509.185
FMIN	0.147	0.000	4.293
F0	0.008	0.000	4.034
F0 lower bound	0.000	0.000	3.422
F0 upper bound	0.136	0.000	4.715
RMSEA	0.023		0.380
RMSEA lower bound	0.000		0.350
RMSEA upper bound	0.095		0.410
P for test of close fit	0.646		0.000
Akaike information criterion (AIC)	57.886	72.000	479.666
Browne-Cudeck criterion	61.704	78.545	481.120
Bayes information criterion	158.072	243.748	517.832
Consistent AIC	135.404	204.889	509.197
Expected cross validation index	0.536	0.667	4.441
ECVI lower bound	0.528	0.667	3.829
ECVI upper bound	0.664	0.667	5.122
MECVI	0.571	0.727	4.455
Hoelter .05 index	170		10
Hoelter .01 index	208		12

A.13 AMOS Table Output for the Estimated Trust Model of Weak Ties (550 Bootstrap Samples after 1,000 Samples)

Regression Weights		Bootstrap									
	Estimate	S.E.	C.R.	P							
Honesty <--	WTs Expect of me	0.986	0.084	11.808	0.000	SE	SE-SE	Mean	Bias	SE-Bias	
Reliability <--	WTs Expect of me	1.000				0.091	0.003	0.978	-0.008	0.004	
Think WTs trust me<--	WTs Expect of me	0.480	0.103	4.654	0.000	0.000	0.000	1.000	0.000	0.000	
Discretion <--	WTs Expect from me	0.754	0.098	7.726	0.000	0.131	0.004	0.486	0.007	0.006	
Trust level with WTs<--	I Expect of WT	0.706	0.140	5.045	0.000	0.147	0.004	0.766	0.012	0.006	
Honesty <--	I Expect of WT	1.334	0.155	8.617	0.000	0.176	0.005	0.723	0.017	0.007	
Reliability <--	I Expect of WTs	1.000				0.169	0.005	1.357	0.023	0.007	
Discretion <--	I Expect of WTs	1.394	0.168	8.282	0.000	0.000	0.000	1.000	0.000	0.000	
Think WTs trust me<--	I Expect of WTs	0.240	0.128	1.882	0.060	0.202	0.006	1.428	0.034	0.009	
						0.151	0.005	0.225	-0.015	0.006	
Standardized Regression Weights											
	Estimate					SE	SE-SE	Mean	Bias	SE-Bias	
Honesty <--	WTs Expect of me	0.917					0.039	0.001	0.912	-0.005	0.002
Reliability <--	WTs Expect of me	0.881					0.039	0.001	0.883	0.002	0.002
Think WTs trust me<--	WTs Expect of me	0.469					0.111	0.003	0.470	0.001	0.005
Discretion <--	WTs Expect of me	0.649					0.093	0.003	0.651	0.002	0.004
Trust level with WTs<--	I Expect of WTs	0.503					0.093	0.003	0.503	0.000	0.004
Honesty <--	I Expect of WTs	0.865					0.041	0.001	0.867	0.002	0.002
Reliability <--	I Expect of WTs	0.748					0.063	0.002	0.742	-0.007	0.003
Discretion <--	I Expect of WTs	0.795					0.044	0.001	0.795	0.000	0.002
Think WTs trust me<--	I Expect of WTs	0.198					0.119	0.004	0.183	-0.015	0.005

Covariances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias
WTs	Expect of me<-->I Expect of WTs	1.123	0.270	4.157	0.000	0.299	0.009	1.110	-0.013	0.013
E1	<--> E2	0.608	0.214	2.846	0.004	0.240	0.007	0.587	-0.021	0.010
E5	<--> E12	0.893	0.232	3.853	0.000	0.273	0.008	0.861	-0.032	0.012
E4	<--> E10	-0.482	0.136	-3.545	0.000	0.159	0.005	-0.473	0.009	0.007
Correlations		Estimate	SE	SE-SE	Mean	Bias	SE-Bias			
WTs	Expect of me<-->I Expect of WTs	0.544	0.111	0.003	0.548	0.005	0.005			
E1	<--> E2	0.298	0.117	0.004	0.296	-0.001	0.005			
E5	<--> E12	0.461	0.112	0.003	0.458	-0.003	0.005			
E4	<--> E10	-0.561	0.239	0.007	-0.610	-0.049	0.010			
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias
WTs	Expect of me	2.450	0.438	5.599	0.000	0.453	0.014	2.420	-0.031	0.019
I	Expect of WTs	1.741	0.400	4.354	0.000	0.479	0.014	1.735	-0.005	0.020
E3		1.368	0.224	6.106	0.000	0.250	0.008	1.355	-0.012	0.011
E4		1.042	0.263	3.959	0.000	0.251	0.008	0.988	-0.054	0.011
E5		1.965	0.361	5.445	0.000	0.348	0.010	1.932	-0.033	0.015
E10		0.707	0.175	4.049	0.000	0.204	0.006	0.665	-0.042	0.009
E11		0.453	0.145	3.113	0.002	0.171	0.005	0.449	-0.004	0.007
E12		1.912	0.278	6.867	0.000	0.433	0.013	1.841	-0.071	0.018
E1		2.554	0.363	7.044	0.000	0.375	0.011	2.488	-0.066	0.016
E2		1.635	0.230	7.104	0.000	0.201	0.006	1.592	-0.043	0.009

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias
I expect discretion	0.632	0.070	0.002	0.634	0.002	0.003
I expect reliability	0.560	0.092	0.003	0.554	-0.006	0.004
I expect honesty	0.748	0.071	0.002	0.753	0.005	0.003
My trust level with WTs	0.254	0.092	0.003	0.262	0.009	0.004
WTs expect discretion	0.421	0.119	0.004	0.433	0.012	0.005
I think WTs trust me	0.361	0.087	0.003	0.362	0.001	0.004
WTs expect reliability	0.776	0.068	0.002	0.782	0.006	0.003
WTs expect honesty	0.840	0.070	0.002	0.832	-0.008	0.003

Bollen-Stine Bootstrap

The model fit better in 555 bootstrap samples.  
 It fit about equally well in 0 bootstrap samples.  
 It fit worse or failed to fit in 445 bootstrap samples.

Testing the null hypothesis that the model is correct, P = 0.555445

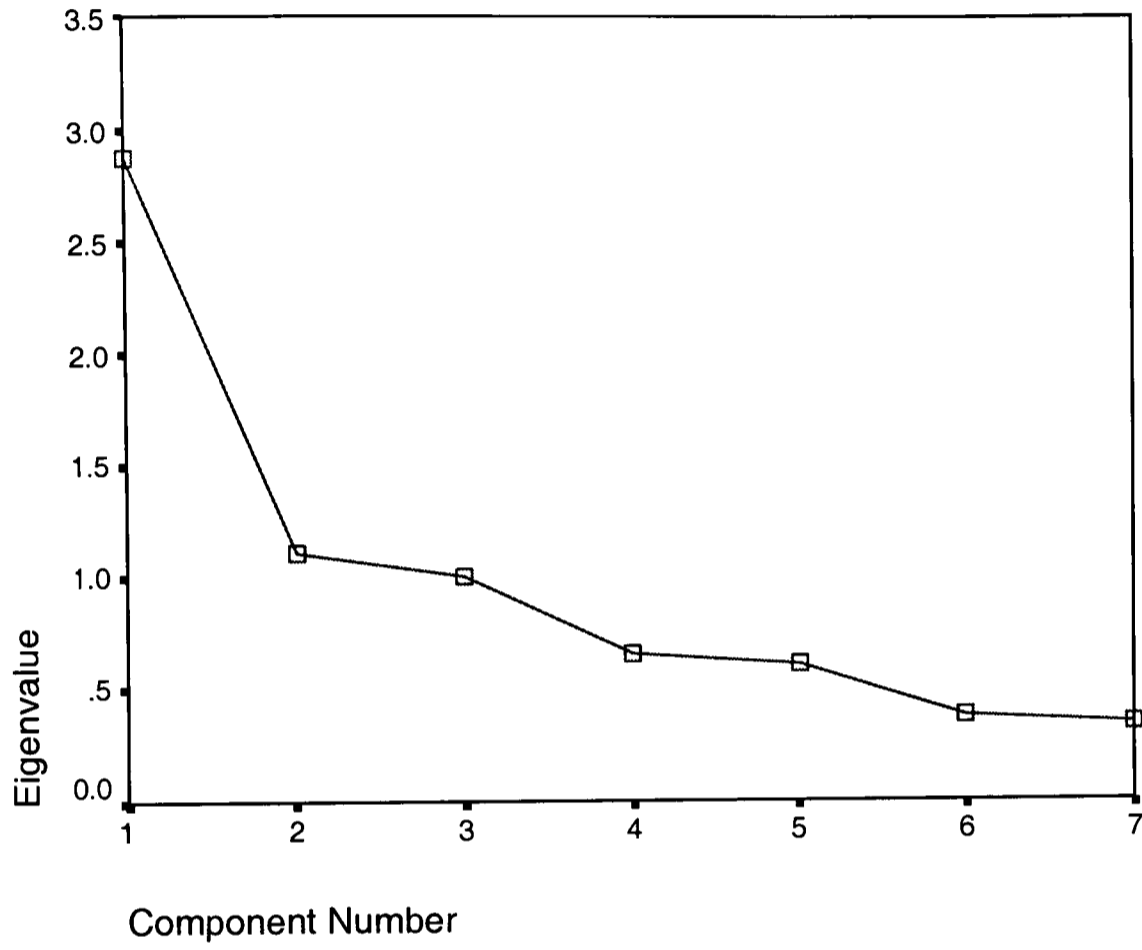
Bootstrap Distributions

	4.163	*
	7.616	*****
	11.070	*****
ML discrepancy	14.524	*****
(implied vs sample)	17.977	*****
	21.431	*****
	24.885	*****
N = 1000	28.338	*****
Mean = 18.0373	31.792	***
S. e. = 0.238335	35.246	*
	38.699	**
	42.153	*
	45.607	*
	49.060	*
	52.514	*



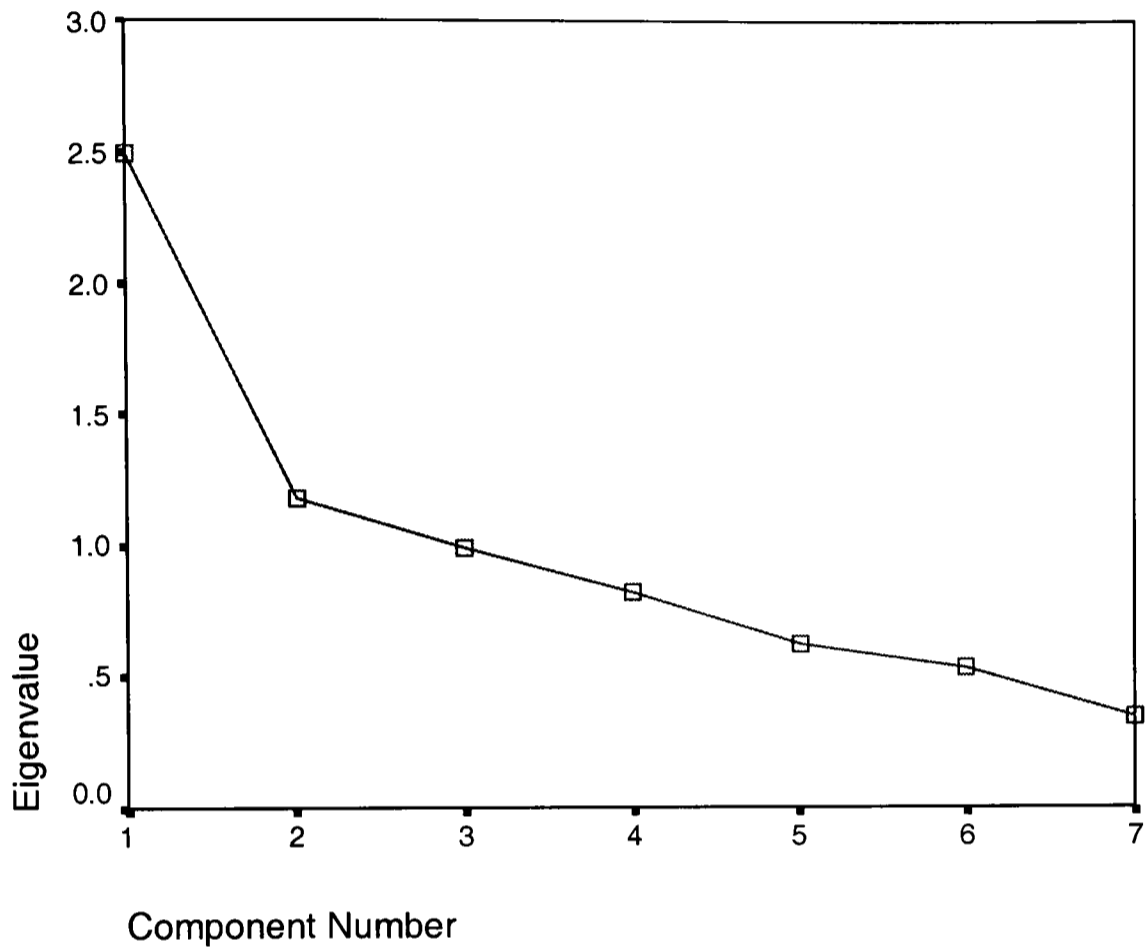
## Appendix B

### B.1 The Scree-Plot of the Three-Factor Structure of Relationship Association for Tie Type 1



Appendix B

B.2 The Scree-Plot of the Two-Factor Structure of Relationship Association for Tie Type 2



### B.3 The Chi-square Statistics and the Indices of the Measurement Models of Relationship Association in Tie Type 1 and Tie Type 2 Data Sets

#### Tie Type 1 Data Set

The measurement model adequately fit the sample data. The model had a non-significant  $\chi^2 (10) = 17.25, p = 0.07, \chi^2 / d.f. = 1.73$ , Goodness of Fit Index (GFI) = 0.95, Normed Fit Index (NFI) = 0.90, Comparative Fit Index (CFI) = 0.95, Tucker-Lewis Index (TLI) = 0.93, root mean square error of approximation (RMSEA) = 0.086 (the lower bound was 0.000 and the upper bound was 0.153 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.06.

Mardia's (1970) coefficient of multivariate kurtosis was 7.20 with a critical ratio of 3.66. There were no outliers in the distribution of the variables. This suggested that the multivariate non-normality of the data was very small. The bootstrap procedure was still applied. The result of the model was not affected. The relevant AMOS outputs are presented in B.4 and B.5.

#### Tie Type 2 Data Set

The measurement model adequately fit the sample data. The model had a non-significant  $\chi^2 (10) = 17.51, p = 0.06, \chi^2 / d.f. = 1.75$ , Goodness of Fit Index (GFI) = 0.94, Normed Fit Index (NFI) = 0.82, Comparative Fit Index (CFI) = 0.91, Tucker-Lewis Index (TLI) = 0.86, root mean square error of approximation (RMSEA) = 0.095 (the lower bound was 0.000 and the upper bound was 0.166 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.06.

## Appendix B

Mardia's (1970) coefficient of multivariate kurtosis was 5.46 with a critical ratio of 2.57. There were no outliers in the distribution of the variables. The multivariate non-normality of the data was very minimal. The bootstrap procedure changed three path coefficients from  $p^{***}$  to  $p^{**}$  for the variables of Interact and Depend on Resources, and to  $p^*$  to the variable of Know Family. The relevant AMOS outputs are presented in B.6 and B.7.

## Appendix B

### B.4 AMOS Output of Fit Measures of the Measurement Model of Relationship Association – Tie Type 1

Fit Measure	Model	Saturated	Independence
Discrepancy	17.246	0.000	164.864
Degrees of freedom	10	0	15
P	0.069		0.000
Number of parameters	11	21	6
Discrepancy / df	1.725		10.991
RMR	0.260	0.000	1.666
GFI	0.948	1.000	0.576
Adjusted GFI	0.891		0.407
Parsimony-adjusted GFI	0.452		0.412
Normed fit index	0.895	1.000	0.000
Relative fit index	0.843		0.000
Incremental fit index	0.953	1.000	0.000
Tucker-Lewis index	0.927		0.000
Comparative fit index	0.952	1.000	0.000
Parsimony ratio	0.667	0.000	1.000
Parsimony-adjusted NFI	0.597	0.000	0.000
Parsimony-adjusted CFI	0.634	0.000	0.000
Noncentrality parameter estimate	7.246	0.000	149.864
NCP lower bound	0.000	0.000	112.262
NCP upper bound	22.857	0.000	194.926
FMIN	0.176	0.000	1.682
F0	0.074	0.000	1.529
F0 lower bound	0.000	0.000	1.146
F0 upper bound	0.233	0.000	1.989
RMSEA	0.086		0.319
RMSEA lower bound	0.000		0.276
RMSEA upper bound	0.153		0.364
P for test of close fit	0.177		0.000
Akaike information criterion (AIC)	39.246	42.000	176.864
Browne-Cudeck criterion	40.938	45.231	177.787
Bayes information criterion	87.502	134.124	203.185
Consistent AIC	78.792	117.498	198.435
Expected cross validation index	0.400	0.429	1.805
ECVI lower bound	0.327	0.429	1.421
ECVI upper bound	0.560	0.429	2.265
MECVI	0.418	0.462	1.814
Hoelter .05 index	105		15
Hoelter .01 index	132		19

B.5 AMOS Table Output of the Measurement Model of Relationship Association – Tie Type 1 (117 Bootstrap Samples after 1,000 Samples)

		Bootstrap					BC Confidence					
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
interact	<-- association	1.187	0.178	6.650	0.000	0.229	0.015	1.240	0.053	0.800	1.569	0.039
workwith	<-- association	0.700	0.151	4.648	0.000	0.151	0.010	0.710	0.010	0.439	0.949	0.023
knfamily	<-- association	1.503	0.216	6.966	0.000	0.218	0.014	1.528	0.026	1.187	1.871	0.023
dependre	<-- association	1.029	0.189	5.458	0.000	0.202	0.013	1.069	0.040	0.638	1.337	0.044
knowwell	<-- association	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
Standardized Regression Weights		Estimate				SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
interact	<-- association	0.722				0.070	0.005	0.734	0.012	0.570	0.809	0.059
workwith	<-- association	0.506				0.108	0.007	0.503	-0.003	0.309	0.693	0.018
knfamily	<-- association	0.765				0.067	0.004	0.760	-0.005	0.666	0.885	0.009
dependre	<-- association	0.591				0.084	0.005	0.596	0.005	0.444	0.711	0.020
knowwell	<-- association	0.783				0.060	0.004	0.778	-0.005	0.662	0.865	0.018
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
association		1.977	0.470	4.207	0.000	0.406	0.027	1.934	-0.043	1.314	2.743	0.008
E2		3.166	0.646	4.902	0.000	0.777	0.051	3.152	-0.014	1.849	4.332	0.014
E1		3.891	0.625	6.225	0.000	0.599	0.039	3.816	-0.075	3.157	5.273	0.003
E4		2.551	0.473	5.391	0.000	0.477	0.031	2.382	-0.170	1.912	3.514	0.003
E5		1.249	0.269	4.649	0.000	0.303	0.020	1.230	-0.019	0.796	1.835	0.007
E6		2.202	0.315	7.000	0.000	0.632	0.041	2.184	-0.018	1.481	3.853	0.007
E3		2.817	0.433	6.509	0.000	0.508	0.033	2.801	-0.015	1.859	3.593	0.018

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
letdown	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	...
knowwell	0.613	0.091	0.006	0.609	-0.004	0.008	0.438	0.749	0.018
dependre	0.350	0.098	0.006	0.362	0.012	0.009	0.197	0.506	0.020
knfamily	0.585	0.102	0.007	0.582	-0.003	0.009	0.444	0.783	0.009
workwith	0.256	0.108	0.007	0.264	0.009	0.010	0.096	0.480	0.018
interact	0.522	0.103	0.007	0.544	0.022	0.010	0.325	0.654	0.059

Bollen-Stine Bootstrap

The model fit better in 117 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 883 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.12$

Appendix B

B.6 AMOS Output of Fit Measures of the Measurement Model of Relationship Association – Tie Type 2

Fit Measure	Model	Saturated	Independence
Discrepancy	17.505	0.000	96.464
Degrees of freedom	10	0	15
P	0.064		0.000
Number of parameters	11	21	6
Discrepancy / df	1.751		6.431
RMR	0.199	0.000	0.805
GFI	0.936	1.000	0.680
Adjusted GFI	0.866		0.553
Parsimony-adjusted GFI	0.446		0.486
Normed fit index	0.819	1.000	0.000
Relative fit index	0.728		0.000
Incremental fit index	0.913	1.000	0.000
Tucker-Lewis index	0.862		0.000
Comparative fit index	0.908	1.000	0.000
Parsimony ratio	0.667	0.000	1.000
Parsimony-adjusted NFI	0.546	0.000	0.000
Parsimony-adjusted CFI	0.605	0.000	0.000
Noncentrality parameter estimate	7.505	0.000	81.464
NCP lower bound	0.000	0.000	54.101
NCP upper bound	23.231	0.000	116.326
FMIN	0.208	0.000	1.148
F0	0.089	0.000	0.970
F0 lower bound	0.000	0.000	0.644
F0 upper bound	0.277	0.000	1.385
RMSEA	0.095		0.254
RMSEA lower bound	0.000		0.207
RMSEA upper bound	0.166		0.304
P for test of close fit	0.151		0.000
Akaike information criterion (AIC)	39.505	42.000	108.464
Browne-Cudeck criterion	41.505	45.818	109.555
Bayes information criterion	86.084	130.923	133.870
Consistent AIC	77.374	114.296	129.120
Expected cross validation index	0.470	0.500	1.291
ECVI lower bound	0.381	0.500	0.965
ECVI upper bound	0.658	0.500	1.706
MECVI	0.494	0.545	1.304
Hoelter .05 index	88		22
Hoelter .01 index	112		27

B.7 AMOS Table Output of the Measurement Model of Relationship Association – Tie Type 2 (66 Bootstrap Samples after 1,000 Samples)

		Bootstrap						BC Confidence					
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
knowwell	<-- association	1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
interact	<-- association	0.699	0.162	4.318	0.000	0.291	0.025	0.763	0.063	0.036	0.446	1.598	0.013
workwith	<-- association	1.170	0.253	4.624	0.000	0.230	0.020	1.150	-0.020	0.028	0.830	1.722	0.011
knfamily	<-- association	0.553	0.138	3.999	0.000	0.256	0.022	0.606	0.052	0.031	0.304	1.223	0.020
dependre	<-- association	0.798	0.216	3.687	0.000	0.282	0.025	0.843	0.045	0.035	0.202	1.232	0.063
Standardized Regression Weights		Estimate				SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
knowwell	<-- association	0.759				0.100	0.009	0.744	-0.016	0.012	0.603	0.908	0.017
interact	<-- association	0.580				0.133	0.012	0.584	0.004	0.016	0.409	0.809	0.017
workwith	<-- association	0.640				0.133	0.012	0.608	-0.032	0.016	0.353	0.808	0.025
knfamily	<-- association	0.528				0.129	0.011	0.532	0.003	0.016	0.307	0.749	0.030
dependre	<-- association	0.481				0.111	0.010	0.474	-0.008	0.014	0.246	0.618	0.037
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
association		1.540	0.453	3.398	0.001	0.425	0.037	1.449	-0.092	0.052	0.786	2.189	0.020
E3		3.045	0.609	5.000	0.000	0.834	0.073	3.081	0.036	0.103	1.847	4.483	0.025
E2		1.218	0.214	5.681	0.000	0.271	0.024	1.138	-0.080	0.033	0.868	...	0.005
E1		3.256	0.555	5.863	0.000	0.513	0.045	3.181	-0.075	0.063	2.642	...	0.007
E4		1.484	0.274	5.417	0.000	0.471	0.041	1.430	-0.054	0.058	0.758	2.388	0.011
E5		1.130	0.311	3.640	0.000	0.356	0.031	1.107	-0.024	0.044	0.447	1.619	0.025
E6		2.804	0.433	6.481	0.000	0.697	0.061	2.859	0.055	0.086	1.693	3.810	0.044

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
letdown	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	...
dependre	0.232	0.095	0.008	0.237	0.005	0.012	0.064	0.382	0.037
knfamily	0.279	0.142	0.012	0.299	0.020	0.017	0.094	0.560	0.030
workwith	0.409	0.156	0.014	0.387	-0.022	0.019	0.125	0.652	0.025
interact	0.337	0.158	0.014	0.359	0.022	0.019	0.167	0.654	0.017
knowwell	0.577	0.147	0.013	0.563	-0.014	0.018	0.364	0.824	0.017

Bollen-Stine Bootstrap

The model fit better in 66 bootstrap samples.

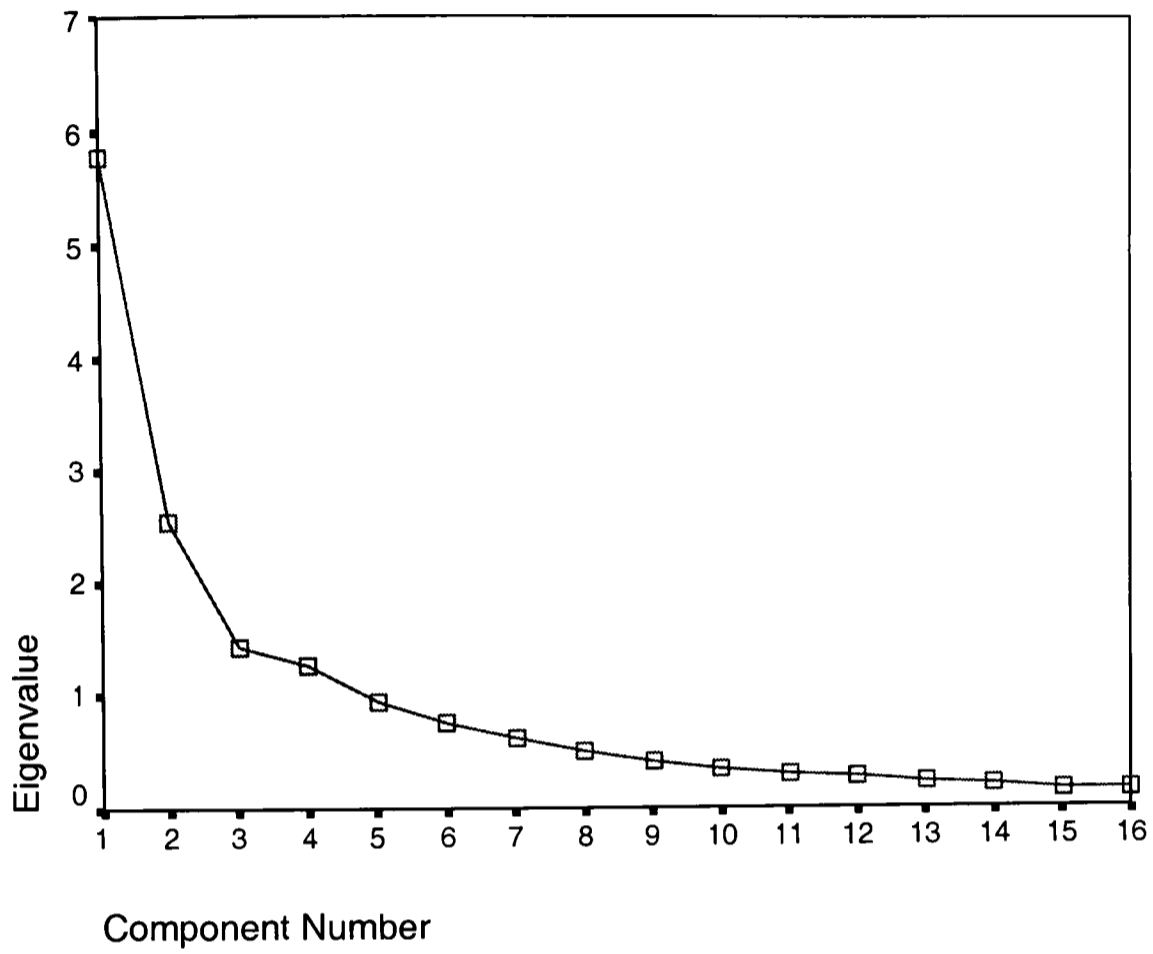
It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 934 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.07$

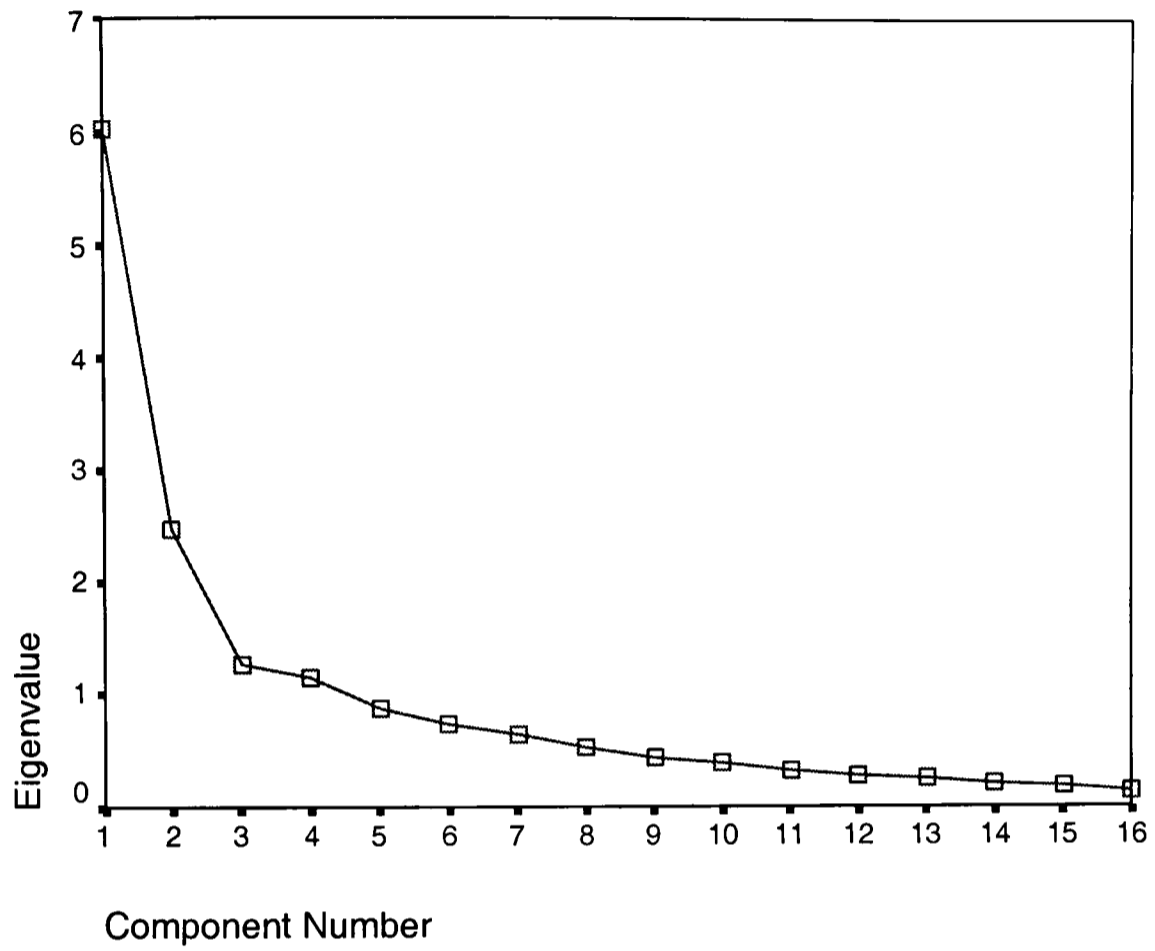
Appendix B

B.8 The Scree-Plot of the Three-Factor Structure of Importance of Shared Common Ground and Business Values for Tie Type 1



Appendix B

B.9 The Scree-plot of the Three-Factor Structure of Importance of Shared Common Ground and Business Values for Tie Type 2



### B.10 The Chi-square Statistics and the Indices of the Measurement Models of Importance of Shared Common Ground and Business Values in Tie Type 1 and Tie Type 2 Data Sets

#### Tie Type 1

The measurement model adequately fit the sample data. The model had a non-significant  $\chi^2 (51) = 58.47, p = 0.22, \chi^2/d.f. = 1.15$ , Goodness of Fit Index (GFI) = 0.92, Normed Fit Index (NFI) = 0.91, Comparative Fit Index (CFI) = 0.99, Tucker-Lewis Index (TLI) = 0.98, root mean square error of approximation (RMSEA) = 0.039 (the lower bound was 0.000 and the upper bound was 0.078 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.07.

Mardia's (1970) coefficient of multivariate kurtosis was 36.71 with a critical ratio of 9.96. There was one outlier in the distribution of the variables. It was concluded that these variables had slight multivariate non-normality. The bootstrap procedure slightly changed the result of the model fit. That was Factor 1 and Factor 2 were correlated at  $p < 0.05$ , and Factor 2 and Factor 3 were non-correlated at  $p = 0.06$ . The relevant AMOS outputs are shown in B.11 and B.12.

#### Tie Type 2

The measurement model adequately fit the sample data. The model had a non-significant  $\chi^2 (43) = 50.36, p = 0.21, \chi^2/d.f. = 1.17$ , Goodness of Fit Index (GFI) = 0.91, Normed Fit Index (NFI) = 0.89, Comparative Fit Index (CFI) = 0.98, Tucker-Lewis Index (TLI) = 0.98, root mean square error of approximation (RMSEA) = 0.045 (the lower bound was 0.000 and the upper bound was 0.090 at 90% confidence interval), and standardised root mean square residual (SRMR) = 0.10.

## Appendix B

Mardia's (1970) coefficient of multivariate kurtosis was 31.99 with a critical ratio of 8.72. There were no outliers in the distribution of the variables. The multivariate non-normality of the data was small. The bootstrap procedure did not affect the result of the model. In the model, Factor 1 and Factor 2 were correlated at  $p < 0.001$ . The relevant AMOS outputs are shown in B.13 and B.14.

Appendix B

B.11 AMOS Output of Fit Measures of the Measurement Model of Importance of Shared Common Ground and Business Values – Tie Type 1

Fit Measure	Model	Saturated	Independence
Discrepancy	58.466	0.000	618.643
Degrees of freedom	51	0	66
P	0.220		0.000
Number of parameters	27	78	12
Discrepancy / df	1.146		9.373
RMR	0.263	0.000	1.207
GFI	0.915	1.000	0.404
Adjusted GFI	0.870		0.295
Parsimony-adjusted GFI	0.598		0.342
Normed fit index	0.905	1.000	0.000
Relative fit index	0.878		0.000
Incremental fit index	0.987	1.000	0.000
Tucker-Lewis index	0.983		0.000
Comparative fit index	0.986	1.000	0.000
Parsimony ratio	0.773	0.000	1.000
Parsimony-adjusted NFI	0.700	0.000	0.000
Parsimony-adjusted CFI	0.762	0.000	0.000
Noncentrality parameter estimate	7.466	0.000	552.643
NCP lower bound	0.000	0.000	476.721
NCP upper bound	30.568	0.000	636.023
FMIN	0.597	0.000	6.313
F0	0.076	0.000	5.639
F0 lower bound	0.000	0.000	4.865
F0 upper bound	0.312	0.000	6.490
RMSEA	0.039		0.292
RMSEA lower bound	0.000		0.271
RMSEA upper bound	0.078		0.314
P for test of close fit	0.639		0.000
Akaike information criterion (AIC)	112.466	156.000	642.643
Browne-Cudeck criterion	120.725	179.859	646.314
Bayes information criterion	249.627	552.242	703.604
Consistent AIC	209.534	436.419	685.785
Expected cross validation index	1.148	1.592	6.558
ECVI lower bound	1.071	1.592	5.783
ECVI upper bound	1.383	1.592	7.408
MECVI	1.232	1.835	6.595
Hoelter .05 index	116		14
Hoelter .01 index	130		16

**B.12 AMOS Table Output of the Measurement Model of Importance of Shared Common Ground and Business Values – Tie Type 1 (298 Bootstrap Samples after 1,000 Samples)**

		Bootstrap				BC Confidence							
Regression Weights		SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P				
i_fambac	<--	0.365	0.015	2.078	0.089	0.021	1.577	2.675	0.010				
i_age	<--	0.277	0.011	1.621	0.026	0.016	1.213	2.143	0.007				
i_gend	<--	0.000	0.000	1.000	0.000	0.000	1.000	1.000	...				
i_class	<--	0.622	0.025	2.279	0.157	0.036	1.489	3.550	0.007				
i_educ	<--	0.570	0.023	2.162	0.136	0.033	1.411	3.277	0.007				
i_csocia	<--	0.368	0.015	1.491	0.072	0.021	0.961	2.191	0.009				
i_hointe	<--	0.289	0.012	1.149	0.023	0.017	0.701	1.687	0.006				
i_hards	<--	0.000	0.000	1.000	0.000	0.000	1.000	1.000	...				
i_princi	<--	0.000	0.000	1.000	0.000	0.000	1.000	1.000	...				
i_profes	<--	0.377	0.015	1.470	0.041	0.022	1.024	2.252	0.004				
i_ivisio	<--	0.398	0.016	1.434	0.052	0.023	0.939	2.296	0.005				
i_geobac	<--	0.317	0.013	1.407	0.065	0.018	1.014	2.088	0.005				
Standardized Regression Weights													
		Estimate		Bias		SE-Bias		Lower		Upper		P	
i_fambac	<--	0.904	0.904	0.002	0.907	0.003	0.003	0.814	0.970	0.013			
i_age	<--	0.742	0.742	0.003	0.731	-0.010	0.005	0.598	0.850	0.006			
i_gend	<--	0.728	0.728	0.003	0.720	-0.008	0.004	0.596	0.814	0.007			
i_class	<--	0.905	0.905	0.002	0.910	0.005	0.002	0.813	0.958	0.019			
i_educ	<--	0.832	0.832	0.002	0.833	0.001	0.003	0.711	0.898	0.015			
i_csocia	<--	0.627	0.627	0.004	0.630	0.004	0.005	0.431	0.745	0.013			
i_hointe	<--	0.472	0.472	0.004	0.467	-0.005	0.006	0.263	0.621	0.007			

Appendix B

i_hards	<--	sehgh	0.529	0.106	0.004	0.527	-0.002	0.006	0.350	0.695	0.007
i_princi	<--	piv	0.796	0.107	0.004	0.800	0.005	0.006	0.594	0.950	0.013
i_profes	<--	piv	0.875	0.069	0.003	0.874	0.000	0.004	0.722	0.955	0.017
i_ivisio	<--	piv	0.867	0.054	0.002	0.867	-0.001	0.003	0.770	0.942	0.008
i_geobac	<--	afgg	0.618	0.084	0.003	0.621	0.004	0.005	0.473	0.751	0.009

Covariances

	Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
sehgh	afgg	0.418	0.125	3.356	0.001	0.162	0.007	0.406	-0.012	0.009	0.221	0.826	0.001
sehgh	piv	0.234	0.117	2.001	0.045	0.112	0.005	0.212	-0.022	0.006	0.099	0.494	0.007
E9	E8	1.509	0.360	4.192	0.000	0.479	0.020	1.461	-0.049	0.028	0.745	2.396	0.004

Correlations

	Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
sehgh	afgg	0.561	0.099	0.004	0.551	-0.010	0.006	0.400	0.725	0.005
sehgh	piv	0.218	0.095	0.004	0.206	-0.012	0.006	0.069	0.363	0.019
E9	E8	0.512	0.115	0.005	0.502	-0.009	0.007	0.271	0.666	0.010

Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
sehgh	afgg	0.795	0.297	2.682	0.007	0.373	0.015	0.823	0.028	0.022	0.321	1.565	0.005
afgg	piv	0.699	0.176	3.969	0.000	0.258	0.011	0.698	0.000	0.015	0.312	1.224	0.005
piv	E4	1.448	0.320	4.527	0.000	0.587	0.024	1.509	0.061	0.034	0.660	2.709	0.005
E4	E5	0.618	0.106	5.841	0.000	0.131	0.005	0.606	-0.012	0.008	0.431	0.877	0.003
E5	E6	0.791	0.280	2.823	0.005	0.349	0.014	0.745	-0.046	0.020	0.321	1.490	0.011
E6	E9	1.453	0.318	4.570	0.000	0.415	0.017	1.427	-0.026	0.024	0.897	2.300	0.003
E9	E8	3.520	0.522	6.739	0.000	0.535	0.022	3.461	-0.059	0.031	2.716	4.513	0.003
E8	E1	2.474	0.385	6.419	0.000	0.533	0.022	2.390	-0.084	0.031	1.726	3.551	0.002
E1	E2	1.454	0.254	5.731	0.000	0.312	0.013	1.433	-0.021	0.018	0.982	2.002	0.004
E2		0.614	0.218	2.813	0.005	0.265	0.011	0.574	-0.040	0.015	0.222	1.048	0.020

Appendix B

E7	2.045	0.307	6.660	0.000	0.424	0.017	1.993	-0.052	0.025	1.468	2.906	0.002
E3	2.041	0.318	6.410	0.000	0.464	0.019	1.998	-0.043	0.027	1.276	2.847	0.004
E12	0.839	0.156	5.386	0.000	0.383	0.016	0.768	-0.071	0.022	0.285	1.720	0.009
E11	0.911	0.229	3.971	0.000	0.298	0.012	0.865	-0.046	0.017	0.494	1.478	0.004
E10	0.906	0.240	3.783	0.000	0.479	0.020	0.874	-0.032	0.028	0.358	2.159	0.001

Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
i_profes	0.765	0.117	0.005	0.769	0.004	0.007	0.521	0.912	0.017
i_ivisio	0.752	0.094	0.004	0.754	0.002	0.005	0.593	0.888	0.008
i_princi	0.633	0.168	0.007	0.652	0.019	0.010	0.353	0.902	0.013
i_geobac	0.381	0.102	0.004	0.393	0.012	0.006	0.224	0.565	0.009
i_hards	0.280	0.113	0.005	0.289	0.009	0.007	0.122	0.483	0.007
i_hointe	0.223	0.095	0.004	0.229	0.006	0.005	0.069	0.386	0.007
i_csocia	0.393	0.111	0.005	0.405	0.013	0.006	0.186	0.555	0.013
i_age	0.550	0.114	0.005	0.541	-0.009	0.007	0.357	0.723	0.006
i_fambac	0.818	0.084	0.003	0.825	0.007	0.005	0.663	0.941	0.013
i_educ	0.692	0.090	0.004	0.696	0.004	0.005	0.506	0.807	0.015
i_class	0.819	0.077	0.003	0.830	0.011	0.004	0.661	0.918	0.019
i_gend	0.531	0.091	0.004	0.523	-0.008	0.005	0.356	0.662	0.007

Bollen-Stine Bootstrap

The model fit better in 298 bootstrap samples.  
 It fit about equally well in 0 bootstrap samples.  
 It fit worse or failed to fit in 702 bootstrap samples.

Testing the null hypothesis that the model is correct, P = 0.30

## Appendix B

### B.13 AMOS Output of Fit Measures of the Measurement Model of Importance of Shared Common Ground and Business Values – Tie Type 2

Fit Measure	Model	Saturated	Independence
Discrepancy	50.356	0.000	457.425
Degrees of freedom	43	0	55
P	0.205		0.000
Number of parameters	23	66	11
Discrepancy / df	1.171		8.317
RMR	0.347	0.000	1.099
GFI	0.909	1.000	0.414
Adjusted GFI	0.861		0.296
Parsimony-adjusted GFI	0.592		0.345
Normed fit index	0.890	1.000	0.000
Relative fit index	0.859		0.000
Incremental fit index	0.982	1.000	0.000
Tucker-Lewis index	0.977		0.000
Comparative fit index	0.982	1.000	0.000
Parsimony ratio	0.782	0.000	1.000
Parsimony-adjusted NFI	0.696	0.000	0.000
Parsimony-adjusted CFI	0.768	0.000	0.000
Noncentrality parameter estimate	7.356	0.000	402.425
NCP lower bound	0.000	0.000	337.908
NCP upper bound	29.233	0.000	474.415
FMIN	0.599	0.000	5.446
F0	0.088	0.000	4.791
F0 lower bound	0.000	0.000	4.023
F0 upper bound	0.348	0.000	5.648
RMSEA	0.045		0.295
RMSEA lower bound	0.000		0.270
RMSEA upper bound	0.090		0.320
P for test of close fit	0.533		0.000
Akaike information criterion (AIC)	96.356	132.000	479.425
Browne-Cudeck criterion	104.023	154.000	483.092
Bayes information criterion	207.689	451.476	532.671
Consistent AIC	175.537	359.215	517.294
Expected cross validation index	1.147	1.571	5.707
ECVI lower bound	1.060	1.571	4.939
ECVI upper bound	1.408	1.571	6.564
MECVI	1.238	1.833	5.751
Hoelter .05 index	99		14
Hoelter .01 index	113		16

**B.14 AMOS Table Output of the Measurement Model of Importance of Shared Common Ground and Business Values – Tie Type 2 (282 Bootstrap Samples after 1,000 Samples)**

				Bootstrap				BC Confidence					
Regression Weights				SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P			
	Estimate	S.E.	C.R.	P									
i_fambac	<--	afgg 2.012	0.314	6.406	0.000	0.352	0.015	2.051	0.039	0.021	1.540	2.780	0.005
i_age	<--	afgg 1.800	0.290	6.201	0.000	0.361	0.015	1.846	0.045	0.021	1.313	2.528	0.008
i_gend	<--	afgg 1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
i_class	<--	sehgh 1.519	0.282	5.378	0.000	0.411	0.017	1.581	0.063	0.024	1.088	2.496	0.004
i_csocia	<--	sehgh 1.499	0.269	5.574	0.000	0.448	0.019	1.605	0.106	0.027	1.020	2.214	0.014
i_hointe	<--	sehgh 1.212	0.255	4.750	0.000	0.371	0.016	1.301	0.090	0.022	0.762	1.780	0.016
i_hards	<--	sehgh 1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
i_princi	<--	piv 1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
i_profes	<--	piv 1.468	0.167	8.770	0.000	0.378	0.016	1.540	0.072	0.023	1.093	2.333	0.006
i_ivisio	<--	piv 1.359	0.155	8.741	0.000	0.395	0.017	1.437	0.079	0.024	1.002	2.363	0.005
i_geobac	<--	afgg 1.474	0.281	5.251	0.000	0.336	0.014	1.521	0.048	0.020	1.023	2.156	0.008
Standardized Regression Weights				SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P			
i_fambac	<--	afgg 0.842				0.070	0.003	0.842	0.000	0.004	0.695	0.937	0.014
i_age	<--	afgg 0.798				0.076	0.003	0.801	0.003	0.005	0.634	0.905	0.015
i_gend	<--	afgg 0.678				0.094	0.004	0.684	0.006	0.006	0.489	0.804	0.015
i_class	<--	sehgh 0.748				0.081	0.003	0.738	-0.010	0.005	0.613	0.878	0.003
i_csocia	<--	sehgh 0.798				0.084	0.004	0.805	0.008	0.005	0.638	0.914	0.016
i_hointe	<--	sehgh 0.631				0.076	0.003	0.636	0.005	0.005	0.475	0.740	0.012
i_hards	<--	sehgh 0.643				0.095	0.004	0.634	-0.009	0.006	0.485	0.797	0.004
i_princi	<--	piv 0.797				0.111	0.005	0.798	0.001	0.007	0.569	0.940	0.014

Appendix B

i_profes	<--	piv	0.887	0.051	0.002	0.886	-0.001	0.003	0.791	0.955	0.009
i_ivisio	<--	piv	0.881	0.038	0.002	0.881	0.000	0.002	0.817	0.940	0.007
i_geobac	<--	afgg	0.652	0.103	0.004	0.663	0.010	0.006	0.425	0.783	0.021

Covariances

		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
sehgh	<-->	afgg	0.534	0.152	3.506	0.000	0.169	0.007	0.526	-0.008	0.010	0.295	0.865	0.003

Correlations

		Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
sehgh	<-->	afgg	0.688	0.096	0.004	0.683	-0.005	0.006	0.518	0.838	0.008

Variances

		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
sehgh		1.068	0.352	3.032	0.002	0.390	0.016	1.057	-0.011	0.023	0.529	1.892	0.003
afgg		0.565	0.170	3.315	0.001	0.197	0.008	0.582	0.017	0.012	0.272	0.886	0.009
piv		1.458	0.345	4.227	0.000	0.674	0.028	1.529	0.071	0.040	0.567	2.700	0.007
E4		0.664	0.119	5.592	0.000	0.219	0.009	0.644	-0.020	0.013	0.376	1.146	0.002
E1		1.042	0.228	4.573	0.000	0.321	0.014	0.992	-0.050	0.019	0.586	1.618	0.002
E2		0.936	0.242	3.875	0.000	0.387	0.016	0.915	-0.021	0.023	0.359	1.639	0.009
E7		1.515	0.273	5.552	0.000	0.338	0.014	1.477	-0.038	0.020	1.067	2.211	0.002
E8		1.374	0.332	4.142	0.000	0.537	0.023	1.286	-0.088	0.032	0.661	2.441	0.003
E9		2.370	0.422	5.610	0.000	0.434	0.018	2.300	-0.070	0.026	1.750	3.234	0.002
E3		1.656	0.290	5.711	0.000	0.476	0.020	1.582	-0.074	0.028	1.040	2.811	0.001
E12		0.839	0.164	5.113	0.000	0.379	0.016	0.768	-0.071	0.023	0.314	1.656	0.002
E11		0.778	0.222	3.514	0.000	0.221	0.009	0.761	-0.018	0.013	0.439	1.231	0.003
E10		0.855	0.254	3.363	0.001	0.324	0.014	0.831	-0.025	0.019	0.350	1.429	0.006
E5		1.942	0.407	4.769	0.000	0.560	0.024	1.944	0.002	0.033	1.035	2.869	0.005

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
i_profes	0.786	0.088	0.004	0.788	0.001	0.005	0.626	0.913	0.009
i_ivisio	0.776	0.066	0.003	0.778	0.002	0.004	0.668	0.883	0.007
i_princi	0.635	0.171	0.007	0.648	0.014	0.010	0.324	0.884	0.014
i_geobac	0.426	0.132	0.006	0.450	0.024	0.008	0.181	0.613	0.021
i_hards	0.413	0.118	0.005	0.411	-0.002	0.007	0.235	0.636	0.004
i_hointe	0.398	0.095	0.004	0.410	0.012	0.006	0.226	0.548	0.012
i_csocia	0.636	0.132	0.006	0.655	0.019	0.008	0.408	0.835	0.016
i_class	0.559	0.117	0.005	0.551	-0.008	0.007	0.376	0.770	0.003
i_age	0.637	0.120	0.005	0.647	0.010	0.007	0.402	0.819	0.015
i_fambac	0.710	0.116	0.005	0.714	0.005	0.007	0.483	0.878	0.014
i_gend	0.460	0.125	0.005	0.476	0.016	0.007	0.239	0.646	0.015

Bollen-Stine Bootstrap

The model fit better in 282 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 718 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.28$

Appendix B

B.15 A Summary of the Contingency Coefficients and Adjusted Residues for Tie Type 1 and 2 Data Sets

	Contingency Coefficient 3 x 3 Table	Contingency Coefficient 2 x 2 Table	Adjusted Residue(s) > 2.0 3 x 3 Table	Appendix
<u>Tie Type 1 Data Set</u>				
Similar hobbies/interests x Similar education	0.33 at $p = 0.015$	0.20 at $p = 0.039$	<b>2.1 (yes x yes)</b>	B.16 and B.17
Similar Hobbies/interests x Similar social cultural environment	0.38 at $p = 0.002$	0.28 at $p = 0.004$	2.9 (yes x yes) -2.5 (yes x no)	B.18 and B.19
Similar Social cultural Environment x Similar education	0.19 non-significant	0.14 non-significant	< 2.0 in all cells	B.20 and B.21
<u>Tie Type 2 Data Set</u>				
Similar Hobbies/interests x Similar education	0.21 non-significant	0.10 non-significant	< 2.0 in all cells	B.22 and B.23
Similar Hobbies/interests x Similar social Cultural environment	0.35 at $p = 0.019$	0.21 at $p = 0.045$	2.0 (yes x yes) 2.3 (no x no)	B.24 B.25
Similar Social cultural Environment x Similar education	0.31 non-significant	0.08 non-significant	< 2.0 in all cells except don't know x don't know	B.26 and B.27

Note:

2 x 2 contingency tables were formed by collapsing across 'no' and 'don't know' responses. To compensate for the loss of some information in the 2 x 2 contingency tables, the pattern of adjusted residuals in the cells of the 3 x 3 tables was examined.

## Appendix B

That is an adjusted residue exceeding a value of 2.0 in a cell indicates a significant departure from independence at the 5% level. Thus, we particularly looked for adjusted residual values bigger than 2.0 for the 'yes' x 'yes' cell and possibly the 'no' x 'no' cell in order to seek evidence against independence. Nevertheless, significant contingency coefficients in both 3 x 3 and 2 x 2 tables indicate departure from independence. These coefficients were taken for reference only even though the condition of the chi-square test was violated.

Interpretation of the Table above:

Tie Type 1 - There were significantly more business executives in the data set who had similar education as well as hobbies/interests with their strongest business friendship ties than one would expect if similar hobbies/interests were independent of similar education. Further, there were significantly more business executives who had gone through a period of similar social cultural environment with these ties and had similar hobbies/interests than the hypothesis of independence predicted. Conversely, there were significantly fewer business executives who did not have similar social cultural environment with these ties but had similar hobbies/interests than one would expect if similar hobbies/interests were independent of similar social cultural environment. However, sharing similar social cultural environment was independent of sharing similar education.

Tie Type 2 - There were significantly more business executives in the data set who had gone through a period of similar social cultural environment with their strongest business ties and had similar hobbies/interests than the hypothesis of independence predicted. Further, there were significantly more business executives who had not

## Appendix B

gone through a period of similar social cultural environment with these ties and did not share similar hobbies/interests than one would expect if similar hobbies/interests were independent of similar social cultural environment. The association between these two variables was moderate.

Appendix B

B.16 Similar Hobbies/Interests by Similar Education – 3 x 3 Contingency Table – Tie Type 1

		Similar hobbies or interests			Total		
		yes	no	don't know			
Similar education	yes	Count	39	20	6	65	
		Expected Count	34.1	23.0	7.9	65.0	
		% within Similar education	60.0%	30.8%	9.2%	100.0%	
		% within Similar hobbies or interests	75.0%	57.1%	50.0%	65.7%	
		% of Total	39.4%	20.2%	6.1%	65.7%	
		Adjusted residual	2.1	-1.3	-1.2		
		no	Count	11	14	3	28
		Expected Count	14.7	9.9	3.4	28.0	
		% within Similar education	39.3%	50.0%	10.7%	100.0%	
		% within Similar hobbies or interests	21.2%	40.0%	25.0%	28.3%	
		% of Total	11.1%	14.1%	3.0%	28.3%	
		Adjusted residual	-1.7	1.9	-.3		
		don't know	Count	2	1	3	6
	Expected Count	3.2	2.1	.7	6.0		
	% within Similar education	33.3%	16.7%	50.0%	100.0%		
	% within Similar hobbies or interests	3.8%	2.9%	25.0%	6.1%		
	% of Total	2.0%	1.0%	3.0%	6.1%		
	Adjusted residual	-1.0	-1.0	2.9			
Total		Count	52	35	12	99	
		Expected Count	52.0	35.0	12.0	99.0	
		% within Similar education	52.5%	35.4%	12.1%	100.0%	
		% within Similar hobbies or interests	100.0%	100.0%	100.0%	100.0%	
		% of Total	52.5%	35.4%	12.1%	100.0%	

Appendix B

B.17 Similar Hobbies/Interests by Similar Education – 2 x 2 Contingency Table – Tie Type 1

		Similar Hobbies or interests		Total	
		Yes	No and Don't Know		
Similar education	yes	Count	39	26	65
		Expected Count	34.1	30.9	65.0
		% within Similar education	60.0%	40.0%	100.0%
		% within Similar hobbies or interests	75.0%	55.3%	65.7%
		% of Total	39.4%	26.3%	65.7%
		Adjusted Residual	2.1	-2.1	
No and Don't Know		Count	13	21	34
		Expected Count	17.9	16.1	34.0
		% within Similar education	38.2%	61.8%	100.0%
		% within Similar hobbies or interests	25.0%	44.7%	34.3%
		% of Total	13.1%	21.2%	34.3%
		Adjusted Residual	-2.1	2.1	
Total		Count	52	47	99
		Expected Count	52.0	47.0	99.0
		% within Similar education	52.5%	47.5%	100.0%
		% within Similar hobbies or interests	100.0%	100.0%	100.0%
		% of Total	52.5%	47.5%	100.0%

Appendix B

B.18 Similar Hobbies/Interests by Similar Social Cultural Environment – 3 x 3 Contingency Table – Tie Type 1

		Similar hobbies or interests			Total		
		yes	no	don't know			
Similar social Cultural env.	yes	Count	35	16	2	53	
		Expected Count	27.8	18.7	6.4	53.0	
		% within Similar social cultural env.	66.0%	30.2%	3.8%	100.0%	
		% within Similar hobbies or interests	67.3%	45.7%	16.7%	53.5%	
		% of Total	35.4%	16.2%	2.0%	53.5%	
		Adjusted residual	<b>2.9</b>	-1.2	-2.7		
		no	Count	15	18	7	40
			Expected Count	21.0	14.1	4.8	40.0
			% within Similar social cultural env.	37.5%	45.0%	17.5%	100.0%
			% within Similar hobbies or interests	28.8%	51.4%	58.3%	40.4%
			% of Total	15.2%	18.2%	7.1%	40.4%
			Adjusted residual	<b>-2.5</b>	1.7	1.4	
	don't know	Count	2	1	3	6	
		Expected Count	3.2	2.1	.7	6.0	
		% within Similar social cultural env.	33.3%	16.7%	50.0%	100.0%	
		% within Similar hobbies or interests	3.8%	2.9%	25.0%	6.1%	
		% of Total	2.0%	1.0%	3.0%	6.1%	
		Adjusted residual	-1.0	-1.0	2.9		
Total		Count	52	35	12	99	
		Expected Count	52.0	35.0	12.0	99.0	
		% within Similar education	52.5%	35.4%	12.1%	100.0%	
		% within Similar hobbies or interests	100.0%	100.0%	100.0%	100.0%	
		% of Total	52.5%	35.4%	12.1%	100.0%	

Appendix B

B.19 Similar Hobbies/Interests by Similar Social Cultural Environment – 2 x 2  
Contingency Table – Tie Type 1

			Similar Hobbies or interests		Total
			Yes	No and Don't Know	
Similar cultural social environment	yes	Count	35	18	53
		Expected Count	27.8	25.2	53.0
		% within Similar social cultural env.	66.0%	34.0%	100.0%
		% within Similar hobbies or interests	67.3%	38.3%	53.5%
		% of Total	35.4%	18.2%	53.5%
		Adjusted Residual	<b>2.9</b>	-2.9	
		No and Don't Know	Count	17	29
		Expected Count	24.2	21.8	46.0
		% within Similar social cultural env.	37.0%	63.0%	100.0%
		% within Similar hobbies or interests	32.7%	61.7%	46.5%
		% of Total	17.2%	29.3%	46.5%
		Adjusted Residual	-2.9	2.9	
Total		Count	52	47	99
		Expected Count	52.0	47.0	99.0
		% within Similar social cultural env.	52.5%	47.5%	100.0%
		% within Similar hobbies or interests	100.0%	100.0%	100.0%
		% of Total	52.5%	47.5%	100.0%

Appendix B

B.20 Similar Social Cultural Environment by Similar Education – 3 x 3 Contingency Table – Tie Type 1

		Similar Social Cultural Environment			Total		
		yes	no	don't know			
Similar education	yes	Count	38	23	4	65	
		Expected Count	34.8	26.3	3.9	65.0	
		% within Similar education	58.5%	35.4%	6.2%	100.0%	
		% within Similar social cultural env.	71.7%	57.5%	66.7%	65.7%	
		% of Total	38.4%	23.2%	4.0%	65.7%	
		Adjusted residual	1.4	-1.4	.1		
		no	Count	13	14	1	28
			Expected Count	15.0	11.3	1.7	28.0
			% within Similar education	46.4%	50.0%	3.6%	100.0%
			% within Similar social cultural env.	24.5%	35.0%	16.7%	28.3%
		% of Total	13.1%	14.1%	1.0%	28.3%	
		Adjusted residual	-.9	1.2	-.7		
	don't know	Count	2	3	1	6	
		Expected Count	3.2	2.4	.4	6.0	
		% within Similar education	33.3%	50.0%	16.7%	100.0%	
		% within Similar social cultural env.	3.8%	7.5%	16.7%	6.1%	
		% of Total	2.0%	3.0%	1.0%	6.1%	
		Adjusted residual	-1.0	.5	1.1		
Total		Count	53	40	6	99	
		Expected Count	53.0	40.0	6.0	99.0	
		% within Similar education	53.5%	40.4%	6.1%	100.0%	
		% within Similar social cultural env.	100.0%	100.0%	100.0%	100.0%	
		% of Total	53.5%	40.4%	6.1%	100.0%	

Appendix B

B.21 Similar Social Cultural Environment by Similar Education – 2 x 2 Contingency Table – Tie Type 1

		Similar Social Cultural environment		Total	
		Yes	No and Don't Know		
Similar education	yes	Count	38	27	65
		Expected Count	34.8	30.2	65.0
		% within Similar education	58.5%	41.5%	100.0%
		% within Similar social cultural env.	71.7%	58.7%	65.7%
		% of Total	38.4%	27.3%	65.7%
	Adjusted Residual	1.4	-1.4		
No and Don't Know		Count	15	19	34
		Expected Count	18.2	15.8	34.0
		% within Similar education	44.1%	55.9%	100.0%
		% within Similar social cultural env.	28.3%	41.3%	34.3%
		% of Total	15.2%	19.2%	34.3%
	Adjusted Residual	-1.4	1.4		
Total		Count	53	46	99
		Expected Count	53.0	46.0	99.0
		% within Similar education	53.5%	46.5%	100.0%
		% within Similar social cultural env.	100.0%	100.0%	100.0%
		% of Total	53.5%	46.5%	100.0%

Appendix B

B.22 Similar Hobbies/Interests by Similar Education – 3 x 3 Contingency Table – Tie Type 2

		Similar hobbies or interests			Total		
		yes	no	don't know			
Similar education	yes	Count	11	16	12	39	
		Expected Count	9.2	17.9	11.9	39.0	
		% within Similar education	28.2%	41.0%	30.8%	100.0%	
		% within Similar hobbies or interests	55.0%	41.0%	46.2%	45.9%	
		% of Total	12.9%	18.8%	14.1%	45.9%	
		Adjusted residual	.9	-.8	.0		
		no	Count	7	17	7	31
			Expected Count	7.3	14.2	9.5	31.0
			% within Similar education	22.6%	54.8%	22.6%	100.0%
			% within Similar hobbies or interests	35.0%	43.6%	26.9%	36.5%
			% of Total	8.2%	20.0%	8.2%	36.5%
			Adjusted residual	-.2	1.3	-1.2	
	don't know	Count	2	6	7	15	
		Expected Count	3.5	6.9	4.6	15.0	
		% within Similar education	13.3%	40.0%	46.7%	100.0%	
		% within Similar hobbies or interests	10.0%	15.4%	26.9%	17.6%	
		% of Total	2.4%	7.1%	8.2%	17.6%	
		Adjusted residual	-1.0	-.5	1.5		
Total		Count	20	39	26	85	
		Expected Count	20.0	39.0	26.0	85.0	
		% within Similar education	23.5%	45.9%	30.6%	100.0%	
		% within Similar hobbies or interests	100.0%	100.0%	100.0%	100.0%	
		% of Total	23.5%	45.9%	30.6%	100.0%	

Appendix B

B.23 Similar Hobbies/Interests by Similar Education – 2 x 2 Contingency Table – Tie Type 2

		Similar Hobbies or interests		Total	
		Yes	No and Don't Know		
Similar education	yes	Count	11	28	39
		Expected Count	9.2	29.8	39.0
		% within Similar education	28.2%	71.8%	100.0%
		% within Similar hobbies or interests	55.0%	43.1%	45.9%
		% of Total	12.9%	32.9%	45.9%
		Adjusted Residual	.9	-.9	
No and Don't Know		Count	9	37	46
		Expected Count	10.8	35.2	46.0
		% within Similar education	19.6%	80.4%	100.0%
		% within Similar hobbies or interests	45.0%	56.9%	54.1%
		% of Total	10.6%	43.5%	54.1%
		Adjusted Residual	-.9	.9	
Total		Count	20	65	85
		Expected Count	20.0	65.0	85.0
		% within Similar education	23.5%	76.5%	100.0%
		% within Similar hobbies or interests	100.0%	100.0%	100.0%
		% of Total	23.5%	76.5%	100.0%

Appendix B

B.24 Similar Hobbies/Interests by Similar Social Cultural Environment – 3 x 3 Contingency Table – Tie Type 2

		Similar hobbies or interests			Total	
		yes	no	don't know		
Similar social Cultural env.	yes	Count	10	9	8	27
		Expected Count	6.4	12.4	8.3	27.0
		% within Similar social cultural env.	37.0%	33.3%	29.6%	100.0%
		% within Similar hobbies or interests	50.0%	23.1%	30.8%	31.8%
		% of Total	11.8%	10.6%	9.4%	31.8%
		Adjusted residual	<b>2.0</b>	-1.6	-.1	
	no	Count	9	26	10	45
		Expected Count	10.6	20.6	13.8	45.0
		% within Similar social cultural env.	20.0%	57.8%	22.2%	100.0%
		% within Similar hobbies or interests	45.0%	66.7%	38.5%	52.9%
		% of Total	10.6%	30.6%	11.8%	52.9%
		Adjusted residual	-.8	<b>2.3</b>	-1.8	
	don't know	Count	1	4	8	13
		Expected Count	3.1	6.0	4.0	13.0
		% within Similar social cultural env.	7.7%	30.8%	61.5%	100.0%
	% within Similar hobbies or interests	5.0%	10.3%	30.8%	15.3%	
	% of Total	1.2%	4.7%	9.4%	15.3%	
	Adjusted residual	-1.5	-1.2	<b>2.6</b>		
Total	Count	20	39	26	85	
	Expected Count	20.0	39.0	26.0	85.0	
	% within Similar education	23.5%	45.9%	30.6%	100.0%	
	% within Similar hobbies or interests	100.0%	100.0%	100.0%	100.0%	
	% of Total	23.5%	45.9%	30.6%	100.0%	

Appendix B

B.25 Similar Hobbies/Interests by Similar Social Cultural Environment – 2 x 2  
Contingency Table – Tie Type 2

			Similar Hobbies or interests		Total
			Yes	No and Don't Know	
Similar social Cultural environment	yes	Count	10	17	27
		Expected Count	6.4	20.6	27.0
		% within Similar social cultural env.	37.0%	63.0%	100.0%
		% within Similar hobbies or interests	50.0%	26.2%	31.8%
		% of Total	11.8%	20.0%	31.8%
		Adjusted Residual	2.0	-2.0	
No and Don't Know		Count	10	48	58
		Expected Count	13.6	44.4	58.0
		% within Similar social cultural env.	17.2%	82.8%	100.0%
		% within Similar hobbies or interests	50.0%	73.8%	68.2%
		% of Total	11.8%	56.5%	68.2%
		Adjusted Residual	-2.0	2.0	
Total		Count	20	65	85
		Expected Count	20.0	65.0	85.0
		% within Similar social cultural env.	23.5%	76.5%	100.0%
		% within Similar hobbies or interests	100.0%	100.0%	100.0%
		% of Total	23.5%	76.5%	100.0%

Appendix B

B.26 Similar Social Cultural Environment by Similar Education – 3 x 3 Contingency Table – Tie Type 2

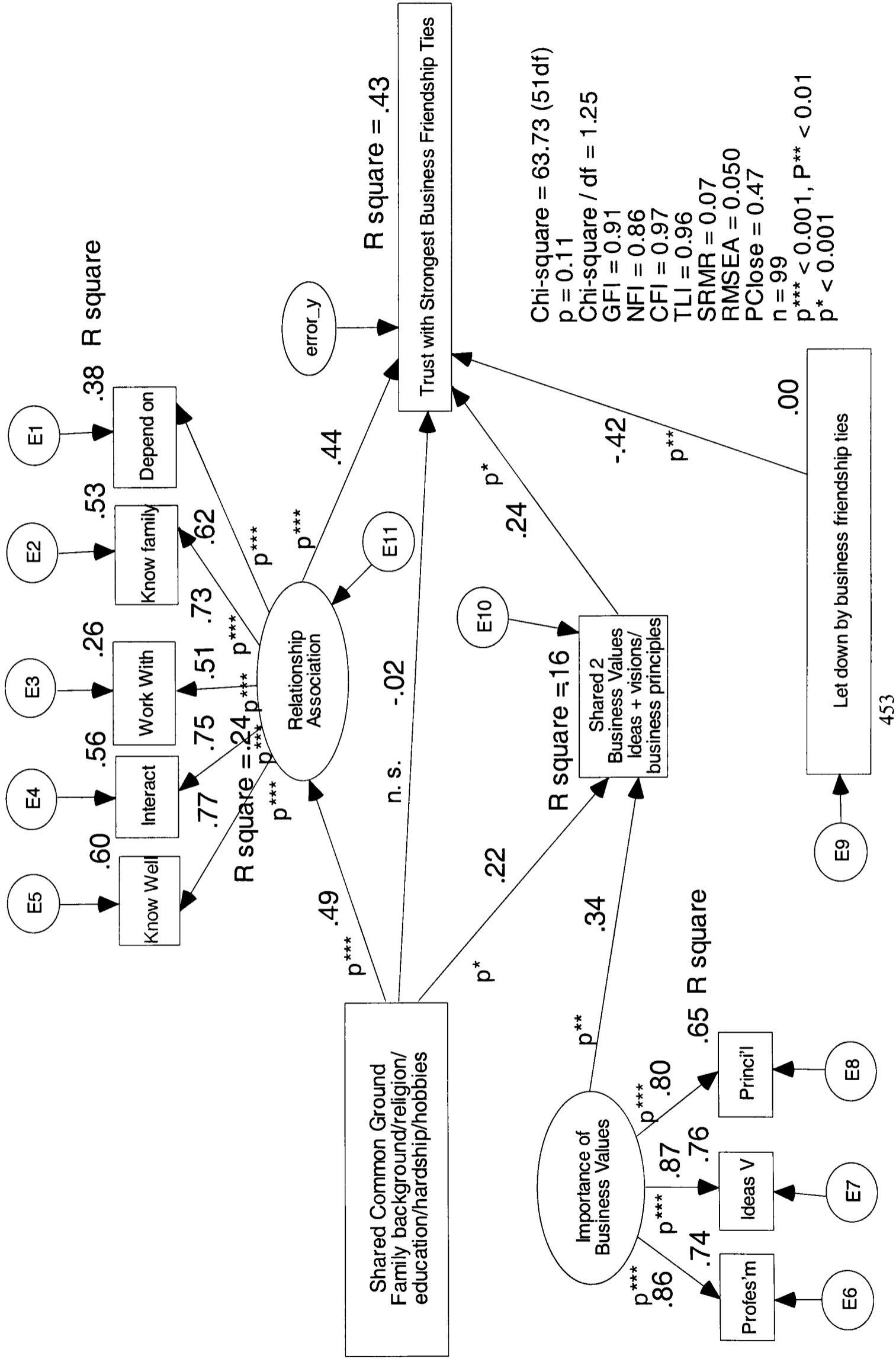
		Similar Social Cultural Environment			Total		
		yes	no	don't know			
Similar education	yes	Count	14	21	4	39	
		Expected Count	12.4	20.6	6.0	39.0	
		% within Similar education	35.9%	53.8%	10.3%	100.0%	
		% within Similar social cultural env.	51.9%	46.7%	30.8%	45.9%	
		% of Total	16.5%	24.7%	4.7%	45.9%	
		Adjusted residual	.8	.2	-1.2		
		no	Count	9	19	3	31
			Expected Count	9.8	16.4	4.7	31.0
			% within Similar education	29.0%	61.3%	9.7%	100.0%
			% within Similar social cultural env.	33.3%	42.2%	23.1%	36.5%
			% of Total	10.6%	22.4%	3.5%	36.5%
			Adjusted residual	-.4	1.2	-1.1	
	don't know	Count	4	5	6	15	
		Expected Count	4.8	7.9	2.3	15.0	
		% within Similar education	26.7%	33.3%	40.0%	100.0%	
		% within Similar social cultural env.	14.8%	11.1%	46.2%	17.6%	
		% of Total	4.7%	5.9%	7.1%	17.6%	
		Adjusted residual	-.5	-1.7	<b>2.9</b>		
Total		Count	27	45	13	85	
		Expected Count	27.0	45.0	13.0	85.0	
		% within Similar education	31.8%	52.9%	15.3%	100.0%	
		% within Similar social cultural env.	100.0%	100.0%	100.0%	100.0%	
		% of Total	31.8%	52.9%	15.3%	100.0%	

Appendix B

B.27 Similar Social Cultural Environment by Similar Education – 2 x 2 Contingency Table – Tie Type 2

		Similar Social Cultural environment		Total	
		Yes	No and Don't Know		
Similar education	yes	Count	14	25	39
		Expected Count	12.4	26.6	39.0
		% within Similar education	35.9%	64.1%	100.0%
		% within Similar social cultural env.	51.9%	43.1%	45.9%
		% of Total	16.5%	29.4%	45.9%
	Adjusted Residual	.8	-.8		
No and Don't Know		Count	13	33	46
		Expected Count	14.6	31.4	46.0
		% within Similar education	28.3%	71.7%	100.0%
		% within Similar social cultural env.	48.1%	56.9%	54.1%
		% of Total	15.3%	38.8%	54.1%
	Adjusted Residual	-.8	.8		
Total		Count	27	58	85
		Expected Count	27.0	58.0	85.0
		% within Similar education	31.8%	68.2%	100.0%
		% within Similar social cultural env.	100.0%	100.0%	100.0%
		% of Total	31.8%	68.2%	100.0%

**Figure B.28 An Estimated Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties with Friendship Item-Parcel of Sharing Common Ground**



Appendix B

B.29 AMOS Output of Fit Measures of Trust Between Business Executives and their Strongest Business Ties with Friendship Based on the Hypothesised Model in Figure 5.7 - Tie Type 1

Fit Measure	Model	Saturated	Independence
Discrepancy	58.726	0.000	468.388
Degrees of freedom	51	0	66
P	0.213		0.000
Number of parameters	27	78	12
Discrepancy / df	1.151		7.097
RMR	0.219	0.000	1.064
GFI	0.914	1.000	0.494
Adjusted GFI	0.868		0.402
Parsimony-adjusted GFI	0.598		0.418
Normed fit index	0.875	1.000	0.000
Relative fit index	0.838		0.000
Incremental fit index	0.981	1.000	0.000
Tucker-Lewis index	0.975		0.000
Comparative fit index	0.981	1.000	0.000
Parsimony ratio	0.773	0.000	1.000
Parsimony-adjusted NFI	0.676	0.000	0.000
Parsimony-adjusted CFI	0.758	0.000	0.000
Noncentrality parameter estimate	7.726	0.000	402.388
NCP lower bound	0.000	0.000	337.447
NCP upper bound	30.900	0.000	474.816
FMIN	0.599	0.000	4.779
F0	0.079	0.000	4.106
F0 lower bound	0.000	0.000	3.443
F0 upper bound	0.315	0.000	4.845
RMSEA	0.039		0.249
RMSEA lower bound	0.000		0.228
RMSEA upper bound	0.079		0.271
P for test of close fit	0.630		0.000
Akaike information criterion (AIC)	112.726	156.000	492.388
Browne-Cudeck criterion	120.985	179.859	496.059
Bayes information criterion	249.887	552.242	553.349
Consistent AIC	209.795	436.419	535.530
Expected cross validation index	1.150	1.592	5.024
ECVI lower bound	1.071	1.592	4.362
ECVI upper bound	1.387	1.592	5.763
MECVI	1.235	1.835	5.062
Hoelter .05 index	115		18
Hoelter .01 index	130		21

B.30 AMOS Table Output for Trust Between Business Executives and Their Strongest Business Ties with Friendship (551 Bootstrap Samples after 1,000 Samples) Based on the Hypothesised Model in Figure 6.7 – Tie Type 1

Regression Weights		Bootstrap							BC Confidence			
		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
r4_ivb	<--	0.098	0.031	3.209	0.001	0.033	0.001	0.099	0.001	0.045	0.156	0.004
r4_ivb	<--	0.137	0.047	2.925	0.003	0.055	0.002	0.138	0.001	0.051	0.236	0.023
wkfid	<--	0.721	0.146	4.926	0.000	0.140	0.004	0.721	0.000	0.502	0.951	0.003
trustlv1	<--	-0.388	0.073	-5.326	0.000	0.153	0.005	-0.404	-0.016	-0.663	-0.154	0.004
trustlv1	<--	0.611	0.218	2.802	0.005	0.308	0.009	0.603	-0.008	0.166	1.167	0.025
trustlv1	<--	0.424	0.109	3.896	0.000	0.115	0.003	0.427	0.002	0.264	0.655	0.003
i_profess	<--	1.011	0.102	9.938	0.000	0.095	0.003	1.007	-0.004	0.865	1.175	0.003
interact	<--	1.216	0.172	7.061	0.000	0.233	0.007	1.245	0.029	0.879	1.642	0.005
Knowwell	<--	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
knfamily	<--	1.416	0.206	6.874	0.000	0.191	0.006	1.431	0.015	1.147	1.764	0.004
workwith	<--	0.700	0.148	4.739	0.000	0.143	0.004	0.696	-0.003	0.468	0.949	0.003
dependre	<--	1.075	0.184	5.855	0.000	0.207	0.006	1.097	0.022	0.766	1.437	0.004
trustlv1	<--	-0.004	0.134	-0.032	0.975	0.163	0.005	-0.003	0.001	-0.274	0.260	0.980
i_ivisio	<--	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
i_princi	<--	0.725	0.078	9.256	0.000	0.172	0.005	0.741	0.016	0.447	1.021	0.005

Standardized Regression Weights		Bootstrap							BC Confidence	
		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P	
r4_ivb	<--	0.320	0.090	0.003	0.318	-0.003	0.004	0.147	0.457	0.005
r4_ivb	<--	0.270	0.103	0.003	0.272	0.002	0.004	0.090	0.429	0.028
wkfid	<--	0.520	0.088	0.003	0.522	0.002	0.004	0.370	0.647	0.005

Appendix B

trustlvl	<--	letdown	-0.415	0.129	0.004	-0.413	0.001	0.005	-0.606	-0.172	0.005
trustlvl	<--	r4_ivb	0.227	0.106	0.003	0.222	-0.005	0.005	0.052	0.401	0.029
trustlvl	<--	wkfid	0.431	0.107	0.003	0.430	-0.001	0.005	0.252	0.601	0.004
i_profes	<--	ipiv	0.862	0.070	0.002	0.862	0.000	0.003	0.710	0.954	0.007
interact	<--	wkfid	0.742	0.069	0.002	0.744	0.003	0.003	0.625	0.846	0.005
Knowwell	<--	wkfid	0.784	0.061	0.002	0.783	-0.001	0.003	0.656	0.859	0.006
knfamily	<--	wkfid	0.722	0.069	0.002	0.722	0.000	0.003	0.597	0.823	0.004
workwith	<--	wkfid	0.507	0.098	0.003	0.500	-0.006	0.004	0.334	0.661	0.003
dependre	<--	wkfid	0.619	0.070	0.002	0.619	0.000	0.003	0.490	0.723	0.004
trustlvl	<--	r4_ech	-0.003	0.118	0.004	-0.003	0.000	0.005	-0.200	0.193	0.972
i_ivisio	<--	ipiv	0.874	0.054	0.002	0.873	-0.001	0.002	0.774	0.952	0.005
i_princi	<--	ipiv	0.803	0.100	0.003	0.808	0.005	0.004	0.589	0.937	0.009

Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
ipiv	2.807	0.544	5.161	0.000	0.702	0.021	2.804	-0.003	0.030	1.784	4.173	0.003
r4_ech	1.031	0.147	7.000	0.000	0.101	0.003	1.024	-0.008	0.004	0.884	1.214	0.002
E9	2.202	0.315	7.000	0.000	0.661	0.020	2.188	-0.014	0.028	1.293	3.449	0.002
E10	0.219	0.032	6.892	0.000	0.053	0.002	0.214	-0.005	0.002	0.138	0.317	0.002
E11	1.448	0.350	4.136	0.000	0.368	0.011	1.427	-0.021	0.016	0.946	2.158	0.002
E7	0.869	0.226	3.850	0.000	0.307	0.009	0.828	-0.041	0.013	0.441	1.451	0.006
E8	0.812	0.153	5.296	0.000	0.359	0.011	0.742	-0.071	0.015	0.321	1.582	0.004
E6	0.991	0.239	4.140	0.000	0.515	0.016	0.954	-0.037	0.022	0.430	2.379	0.001
E4	2.401	0.443	5.415	0.000	0.479	0.014	2.311	-0.090	0.020	1.676	3.235	0.001
E2	3.655	0.653	5.593	0.000	0.738	0.022	3.560	-0.095	0.031	2.507	4.976	0.002
error_y	1.088	0.166	6.553	0.000	0.200	0.006	0.997	-0.090	0.009	0.865	1.550	0.000
E5	1.242	0.252	4.929	0.000	0.289	0.009	1.211	-0.031	0.012	0.859	1.847	0.001
E1	3.692	0.595	6.207	0.000	0.542	0.016	3.623	-0.070	0.023	2.918	4.739	0.001
E3	2.814	0.429	6.562	0.000	0.478	0.014	2.781	-0.033	0.020	2.062	3.676	0.003

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
wkfid	0.270	0.089	0.003	0.280	0.010	0.004	0.137	0.418	0.005
r4_ivb	0.176	0.066	0.002	0.194	0.018	0.003	0.058	0.272	0.016
letdown	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	...
dependre	0.383	0.086	0.003	0.389	0.006	0.004	0.241	0.523	0.004
workwith	0.257	0.096	0.003	0.260	0.003	0.004	0.112	0.437	0.003
Knowwell	0.615	0.093	0.003	0.617	0.002	0.004	0.431	0.739	0.006
knfamily	0.521	0.098	0.003	0.526	0.005	0.004	0.357	0.678	0.004
interact	0.550	0.102	0.003	0.559	0.009	0.004	0.391	0.715	0.005
i_princi	0.645	0.158	0.005	0.663	0.018	0.007	0.347	0.878	0.009
i_ivisio	0.764	0.093	0.003	0.765	0.002	0.004	0.600	0.907	0.005
i_profes	0.743	0.118	0.004	0.748	0.005	0.005	0.504	0.909	0.007
trustlvt	0.435	0.087	0.003	0.476	0.041	0.004	0.269	0.527	0.059

Note: wkfid = the factor of Relationship Association, ipiv = the factor of importance values

r4\_ivb = the item-parcel of sharing similar ideas/visions and business principles

r4\_ech = the item-parcel of sharing education, social cultural and hobbies/interests

i\_profess = importance values of sharing similar professionalism

i\_ivisio= importance values of sharing similar ideas and visions

i\_princi = importance value of sharing similar business principles

### Bollen-Stine Bootstrap

The model fit better in 551 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 449 bootstrap samples.

Testing the null hypothesis that the model is correct, P = 0.55

## Appendix B

### B.31 Normality Check of the Strongest Business Friendship Ties Before and After Item Parcelling in Figure 5.10 (N = 99)

Before item-parcelling

	min	max	skew	c.r.	kurtosis	c.r.
letdown	1.000	9.000	2.635	10.705	7.325	14.877
simeduc	1.000	3.000	1.207	4.903	0.406	0.825
simcsoen	1.000	3.000	0.709	2.882	-0.466	-0.947
simhoint	1.000	3.000	0.737	2.995	-0.659	-1.337
knfamily	1.000	9.000	0.268	1.088	-1.254	-2.546
workwith	2.000	9.000	-0.611	-2.483	-0.697	-1.417
Knowwell	2.000	9.000	-0.611	-2.482	-0.384	-0.779
interact	1.000	9.000	0.436	1.772	-0.788	-1.600
dependre	1.000	9.000	-0.212	-0.862	-0.974	-1.977
simidvis	1.000	3.000	3.120	12.672	9.504	19.303
simprinc	1.000	3.000	3.246	13.187	9.603	19.505
i_princi	1.000	9.000	-1.727	-7.014	4.164	8.456
i_ivisio	1.000	9.000	-1.149	-4.668	1.052	2.137
i_profes	1.000	9.000	-1.587	-6.445	2.314	4.700
trustlvl	1.000	9.000	-1.799	-7.309	4.535	9.210

Multivariate 68.064 14.994

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
7	52.298	0.000	0.000
75	43.136	0.000	0.000
44	37.404	0.001	0.000
63	36.530	0.001	0.000

Note:

simeduc = sharing similar education

simcsoen = sharing similar social cultural environment in the past

simhoint = sharing similar hobbies/interests

simidvis = sharing similar ideas and visions

simprinc = sharing similar business principles

## Appendix B

### After item-parcelling

	min	max	skew	c.r.	kurtosis	c.r.
r4_ech	0.000	3.000	-0.281	-1.142	-1.030	-2.091
r4_ivb	0.000	2.000	-2.413	-9.800	4.797	9.742
letdown	1.000	9.000	2.635	10.705	7.325	14.877
Knowwell	2.000	9.000	-0.611	-2.482	-0.384	-0.779
dependre	1.000	9.000	-0.212	-0.862	-0.974	-1.977
workwith	2.000	9.000	-0.611	-2.483	-0.697	-1.417
knfamily	1.000	9.000	0.268	1.088	-1.254	-2.546
interact	1.000	9.000	0.436	1.772	-0.788	-1.600
i_princi	1.000	9.000	-1.727	-7.014	4.164	8.456
i_ivisio	1.000	9.000	-1.149	-4.668	1.052	2.137
i_profes	1.000	9.000	-1.587	-6.445	2.314	4.700
trustlvl	1.000	9.000	-1.799	-7.309	4.535	9.210

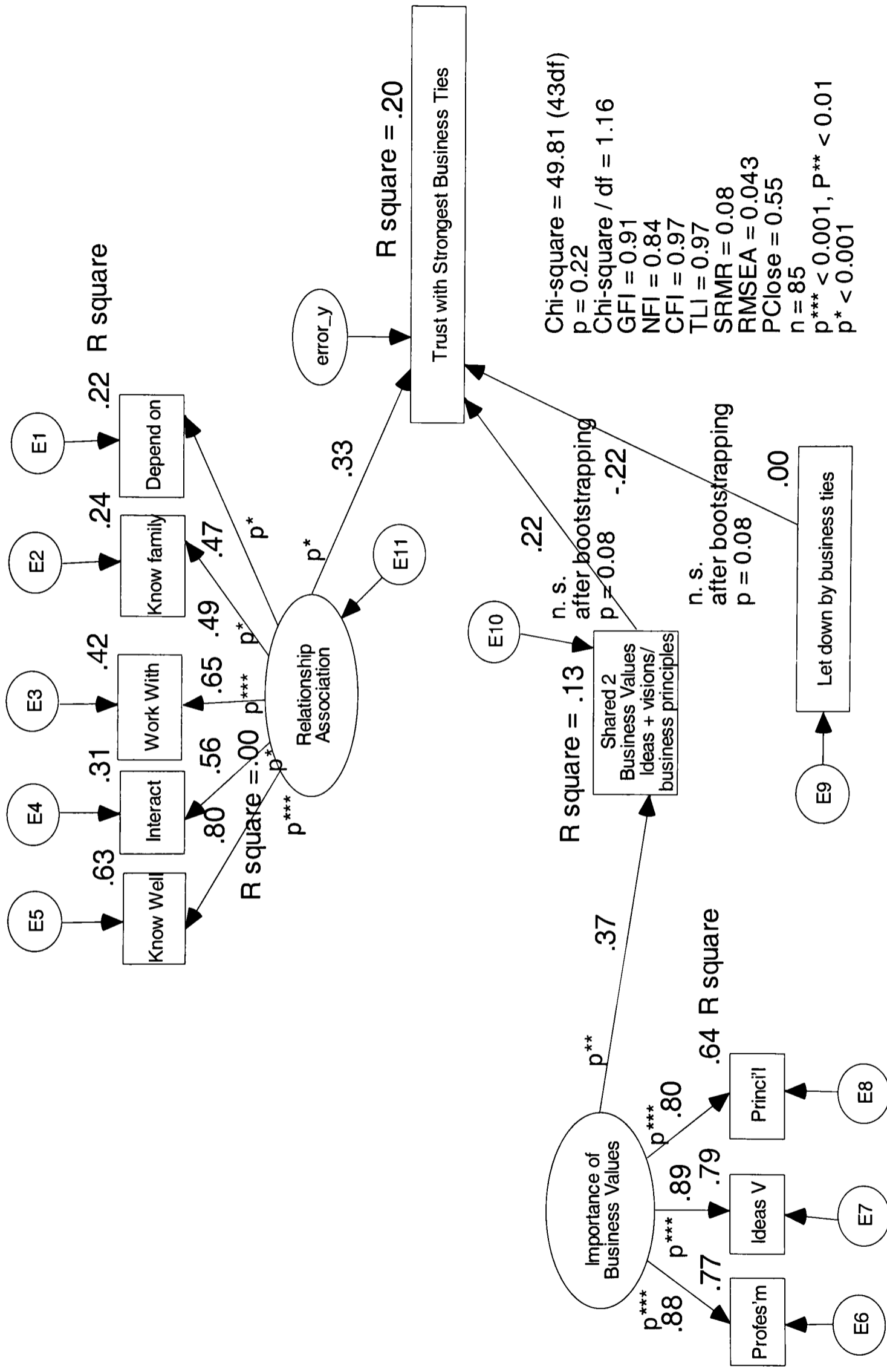
Multivariate 54.498 14.791

Observation number	Mahalanobis d-squared	p1	p2
7	47.790	0.000	0.000
75	42.850	0.000	0.000
63	33.871	0.001	0.000
17	33.088	0.001	0.000

Note:

r4\_ivb = the item-parcel of sharing similar ideas/visions and business principles  
 r4\_ech = the item-parcel of sharing education, social cultural and hobbies/interests

**Figure B.32 An Estimated Model of Interpersonal Trust Between Business Executives and their Strongest Business Ties without Friendship Based on the Hypothesised Model in Figure 5.9**



Appendix B

B.33 AMOS Output of Fit Measures of Trust Between Business Executives and their Strongest Business Ties without Friendship Based on the Hypothesised Model in Figure 5.9 – Tie Type 2

<u>Fit Measure</u>	<u>Model</u>	<u>Saturated</u>	<u>Independence</u>
Discrepancy	51.693	0.000	308.346
Degrees of freedom	43	0	55
P	0.171		0.000
Number of parameters	23	66	11
Discrepancy / df	1.202		5.606
RMR	0.212	0.000	0.730
GFI	0.901	1.000	0.584
Adjusted GFI	0.848		0.501
Parsimony-adjusted GFI	0.587		0.487
Normed fit index	0.832	1.000	0.000
Relative fit index	0.786		0.000
Incremental fit index	0.967	1.000	0.000
Tucker-Lewis index	0.956		0.000
Comparative fit index	0.966	1.000	0.000
Parsimony ratio	0.782	0.000	1.000
Parsimony-adjusted NFI	0.651	0.000	0.000
Parsimony-adjusted CFI	0.755	0.000	0.000
Noncentrality parameter estimate	8.693	0.000	253.346
NCP lower bound	0.000	0.000	201.925
NCP upper bound	30.957	0.000	312.282
FMIN	0.615	0.000	3.671
F0	0.103	0.000	3.016
F0 lower bound	0.000	0.000	2.404
F0 upper bound	0.369	0.000	3.718
RMSEA	0.049		0.234
RMSEA lower bound	0.000		0.209
RMSEA upper bound	0.093		0.260
P for test of close fit	0.485		0.000
Akaike information criterion (AIC)	97.693	132.000	330.346
Browne-Cudeck criterion	105.359	154.000	334.013
Bayes information criterion	209.025	451.476	383.592
Consistent AIC	176.874	359.215	368.215
Expected cross validation index	1.163	1.571	3.933
ECVI lower bound	1.060	1.571	3.321
ECVI upper bound	1.428	1.571	4.634
MECVI	1.254	1.833	3.976
Hoelter .05 index	97		20
Hoelter .01 index	110		23

B.34 AMOS Table Output for Trust Between Business Executives and Their Strongest Business Ties without Friendship (357 Bootstrap Samples after 1,000 Samples) Based on the Hypothesised Model in Figure 5.9 – Tie Type 2

Regression Weights		Bootstrap							BC Confidence			
		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
r2_tidpb	<-- ipiv	0.142	0.061	2.322	0.020	0.070	0.003	0.145	0.003	0.043	0.277	0.022
trustlvl	<-- letdown	-0.187	0.092	-2.030	0.042	0.121	0.005	-0.204	-0.016	-0.451	-0.042	0.043
trustlvl	<-- wkfid	0.520	0.146	3.573	0.000	0.171	0.006	0.516	-0.004	0.270	0.832	0.004
i_profes	<-- ipiv	1.087	0.111	9.778	0.000	0.081	0.003	1.083	-0.004	0.967	1.231	0.003
interact	<-- wkfid	0.633	0.143	4.417	0.000	0.263	0.010	0.682	0.049	0.389	1.304	0.004
knfamily	<-- wkfid	0.469	0.123	3.809	0.000	0.244	0.009	0.511	0.042	0.259	1.078	0.003
workwith	<-- wkfid	1.119	0.223	5.011	0.000	0.181	0.007	1.119	0.000	0.816	1.420	0.006
dependre	<-- wkfid	0.726	0.195	3.728	0.000	0.295	0.011	0.776	0.049	0.345	1.346	0.006
i_ivisio	<-- ipiv	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
i_princi	<-- ipiv	0.745	0.085	8.805	0.000	0.173	0.006	0.752	0.008	0.435	1.005	0.009
trustlvl	<-- r2_tidpb	0.719	0.175	4.117	0.000	0.219	0.008	0.726	0.007	0.302	1.052	0.008
Knowwell	<-- wkfid	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
Standardized Regression Weights		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P			
r2_tidpb	<-- ipiv	0.262	0.118	0.004	0.266	0.004	0.080	0.460	0.026			
trustlvl	<-- letdown	-0.185	0.099	0.004	-0.194	-0.009	-0.400	-0.035	0.047			
trustlvl	<-- wkfid	0.403	0.121	0.005	0.390	-0.013	0.204	0.611	0.003			
i_profes	<-- ipiv	0.887	0.054	0.002	0.884	-0.003	0.788	0.955	0.007			
interact	<-- wkfid	0.556	0.129	0.005	0.567	0.011	0.370	0.800	0.005			
knfamily	<-- wkfid	0.474	0.127	0.005	0.481	0.007	0.286	0.710	0.004			

Appendix B

workwith	<--	wkfid	0.648	0.112	0.004	0.632	-0.016	0.006	0.390	0.762	0.009
dependre	<--	wkfid	0.464	0.118	0.004	0.463	0.000	0.006	0.225	0.617	0.013
i_ivisio	<--	ipiv	0.876	0.039	0.001	0.875	-0.001	0.002	0.806	0.933	0.006
i_princi	<--	ipiv	0.802	0.111	0.004	0.806	0.003	0.006	0.574	0.944	0.012
trustlvl	<--	r2_tidpb	0.375	0.106	0.004	0.371	-0.004	0.006	0.152	0.527	0.008
Knowwell	<--	wkfid	0.804	0.103	0.004	0.789	-0.016	0.005	0.610	0.940	0.004

Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
ipiv	2.664	0.551	4.832	0.000	0.591	0.022	2.672	0.008	0.031	1.828	3.871	0.004
E9	2.804	0.433	6.481	0.000	0.663	0.025	2.771	-0.033	0.035	1.798	4.028	0.003
E10	0.730	0.114	6.427	0.000	0.223	0.008	0.715	-0.015	0.012	0.353	1.059	0.006
E11	1.728	0.461	3.753	0.000	0.504	0.019	1.686	-0.042	0.027	0.957	2.628	0.003
E7	0.807	0.219	3.676	0.000	0.224	0.008	0.793	-0.014	0.012	0.461	1.243	0.003
E8	0.819	0.162	5.059	0.000	0.380	0.014	0.737	-0.081	0.020	0.292	1.633	0.001
E6	0.851	0.251	3.397	0.001	0.330	0.012	0.838	-0.014	0.017	0.348	1.460	0.004
E4	1.545	0.272	5.676	0.000	0.436	0.016	1.448	-0.097	0.023	0.835	2.330	0.002
E2	1.309	0.219	5.970	0.000	0.276	0.010	1.210	-0.099	0.015	0.970	1.887	0.000
error_y	1.907	0.315	6.052	0.000	0.316	0.012	1.793	-0.114	0.017	1.526	2.600	0.000
E5	0.943	0.291	3.241	0.001	0.388	0.015	0.957	0.014	0.021	0.316	1.602	0.008
E1	3.326	0.554	6.000	0.000	0.492	0.018	3.220	-0.106	0.026	2.667	4.197	0.001
E3	2.987	0.583	5.124	0.000	0.762	0.029	3.003	0.017	0.040	2.040	4.700	0.002

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
wkfid	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	...
r2_tidpb	0.068	0.067	0.002	0.085	0.016	0.004	0.006	0.212	0.005
letdown	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	...
Knowwell	0.647	0.157	0.006	0.632	-0.015	0.008	0.372	0.885	0.004
dependre	0.215	0.105	0.004	0.229	0.013	0.006	0.051	0.380	0.013
workwith	0.420	0.135	0.005	0.412	-0.008	0.007	0.152	0.581	0.009
knfamily	0.225	0.128	0.005	0.247	0.022	0.007	0.082	0.504	0.004
interact	0.310	0.154	0.006	0.338	0.029	0.008	0.137	0.640	0.005
i_princi	0.643	0.172	0.006	0.661	0.018	0.009	0.329	0.891	0.012
i_ivisio	0.768	0.067	0.003	0.767	0.000	0.004	0.650	0.871	0.006
i_profes	0.787	0.092	0.003	0.784	-0.003	0.005	0.621	0.913	0.007
trustlvi	0.337	0.104	0.004	0.363	0.026	0.005	0.149	0.484	0.022

Bollen-Stine Bootstrap

The model fit better in 357 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 643 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.36$

## Appendix B

### B.35 Normality Check of the Strongest Business Ties in Tie Type 2 Before and After Item Parcelling in Figure 5.11 (N = 85)

Before item-parcelling

	min	max	skew	c.r.	kurtosis	c.r.
letdown	1.000	9.000	1.851	6.969	3.650	6.869
natong	1.000	2.000	4.278	16.101	16.299	30.674
interact	1.000	7.000	1.365	5.138	1.356	2.552
knfamily	1.000	7.000	1.730	6.513	2.497	4.700
workwith	1.000	9.000	-0.212	-0.798	-0.836	-1.574
simprofe	1.000	3.000	2.530	9.524	5.665	10.662
dependre	1.000	9.000	-0.127	-0.480	-0.889	-1.672
trustlvl	3.000	9.000	-0.715	-2.690	-0.124	-0.234
simcid	1.000	2.000	2.562	9.642	4.563	8.587
i_ivisio	1.000	9.000	-1.032	-3.885	0.743	1.398
i_profes	1.000	9.000	-1.321	-4.972	1.160	2.182
i_princi	1.000	9.000	-2.006	-7.551	5.228	9.839
Knowwell	2.000	8.000	-0.028	-0.107	-0.964	-1.813
simprinc	1.000	3.000	3.200	12.045	9.503	17.884

Multivariate

72.928 15.883

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
62	42.041	0.000	0.010
28	39.891	0.000	0.000
56	38.834	0.000	0.000
33	36.103	0.001	0.000

## Appendix B

After item-parcelling

	min	max	skew	c.r.	kurtosis	c.r.
r2_tidpb	0.000	4.000	-2.457	-9.248	5.747	10.816
letdown	1.000	9.000	1.851	6.969	3.650	6.869
Knowwell	2.000	8.000	-0.028	-0.107	-0.964	-1.813
dependre	1.000	9.000	-0.127	-0.480	-0.889	-1.672
workwith	1.000	9.000	-0.212	-0.798	-0.836	-1.574
knfamily	1.000	7.000	1.730	6.513	2.497	4.700
interact	1.000	7.000	1.365	5.138	1.356	2.552
i_princi	1.000	9.000	-2.006	-7.551	5.228	9.839
i_ivisio	1.000	9.000	-1.032	-3.885	0.743	1.398
i_profes	1.000	9.000	-1.321	-4.972	1.160	2.182
trustlvl	3.000	9.000	-0.715	-2.690	-0.124	-0.234

Multivariate 31.507 8.588

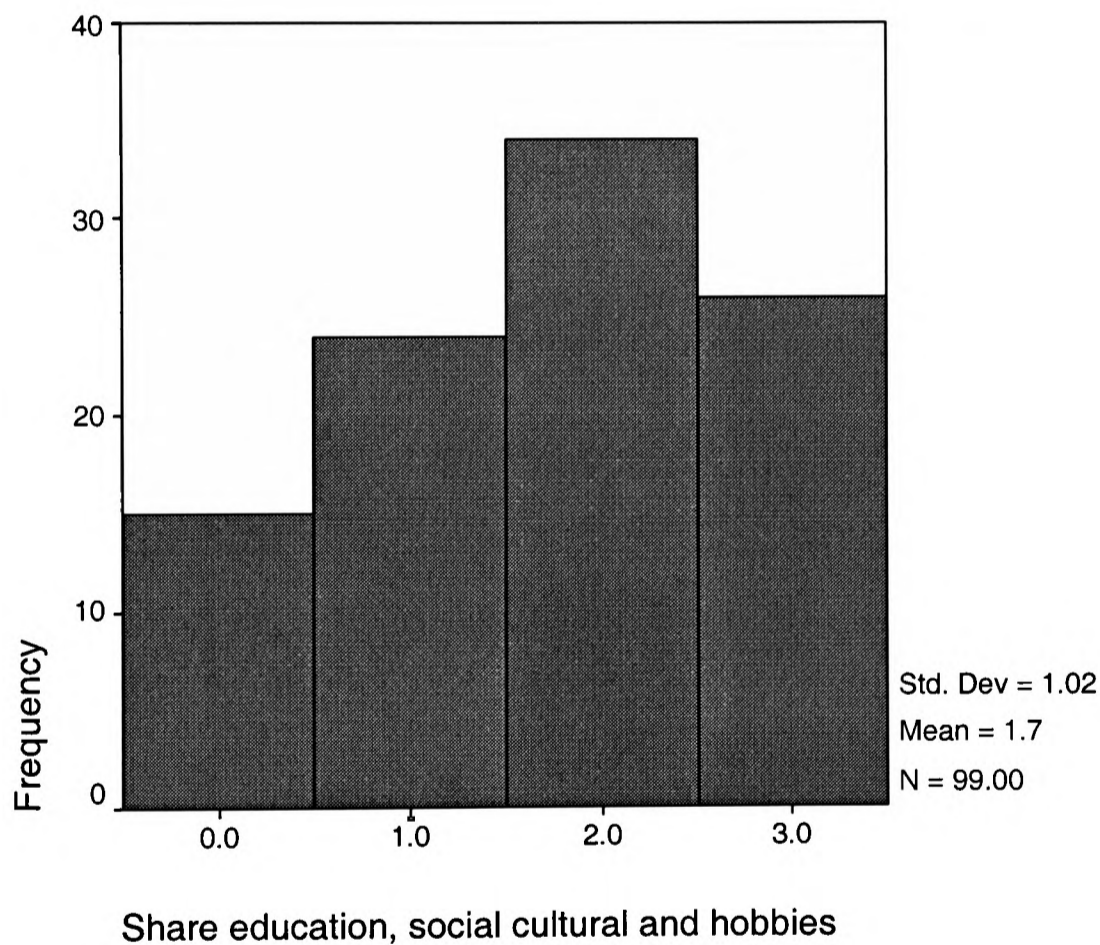
Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
62	40.557	0.000	0.002

## Appendix B

### B.36 Frequency Table and Chart of the Item-Parcel of Sharing Similar Education, Social Environment in the Past and Hobbies/Interests –Tie Type 1

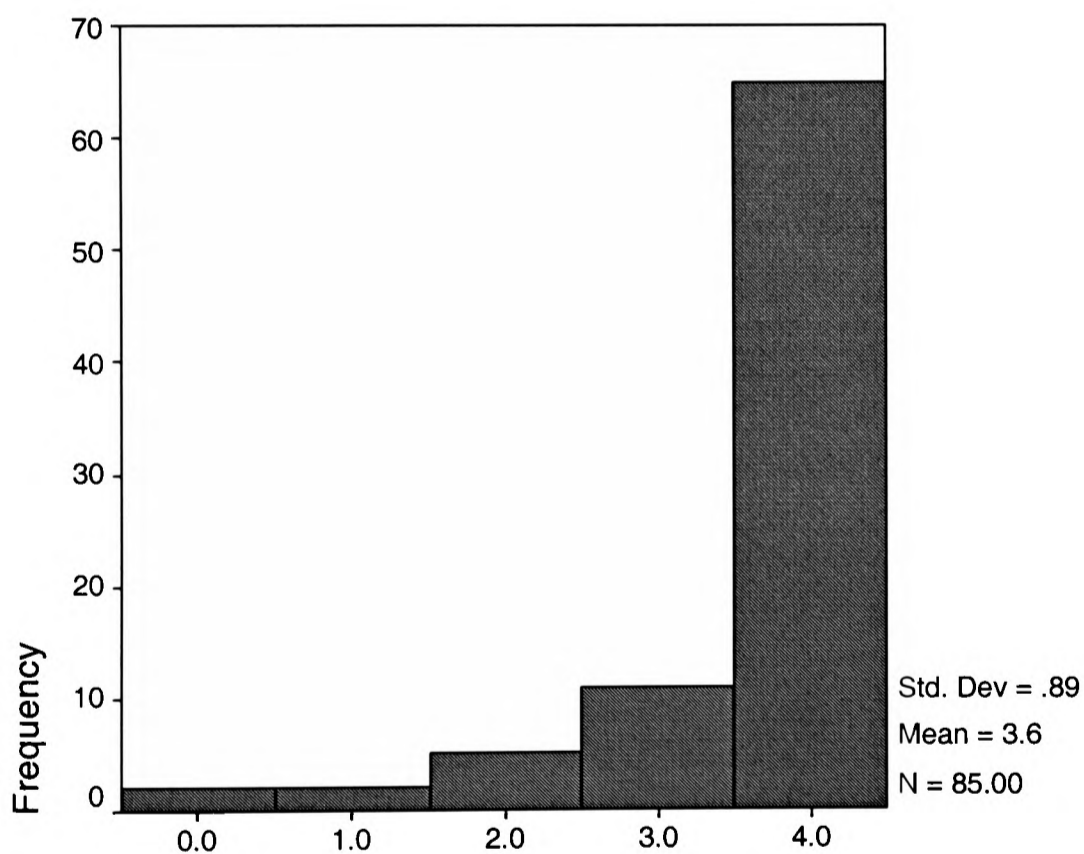
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	15	15.2	15.2	15.2
	1.00	24	24.2	24.2	39.4
	2.00	34	34.3	34.3	73.7
	3.00	26	26.3	26.3	100.0
	Total	99	100.0	100.0	



## Appendix B

### B.37 Frequency Table and Chart of the Item-Parcel of Sharing Common Native Tongue, Cultural Identity, Professionalism and Business Principles – Tie Type 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	2.4	2.4	2.4
	1.00	2	2.4	2.4	4.7
	2.00	5	5.9	5.9	10.6
	3.00	11	12.9	12.9	23.5
	4.00	65	76.5	76.5	100.0
	Total	85	100.0	100.0	



Share native tongue, cultural id, prof'm + business principles

Appendix B

B.38 A Summary of the Confirmed and Unconfirmed Hypotheses in Tie Type 1 and 2 Data Sets

	Tie Type 1		Tie Type 2	
	Hypothesis Driven <i>Presented Model</i>	Data Driven	Hypothesis Driven	Data Driven <i>Presented Model</i>
H3	Confirmed <sup>a, e</sup>	Result was unchanged	Not confirmed <sup>a</sup>	-
Modified H3	-	-	-	Confirmed <sup>b</sup>
H1	Confirmed	Result was unchanged	Confirmed	Results was unchanged
H5	Not confirmed <sup>c</sup>	Not confirmed <sup>d</sup>	-	-
H7	Confirmed <sup>c</sup>	Confirmed <sup>d</sup>	-	-
H8	Confirmed <sup>c</sup>	Confirmed <sup>d</sup>	-	-
H9	Confirmed	Result was unchanged	Not confirmed	Result was unchanged

<sup>a</sup> The item-parcel consisted of sharing similar ideas/visions and business principles.

<sup>b</sup> The item-parcel consisted of sharing common native tongue, cultural identity, professionalism and business principles.

<sup>c</sup> The item-parcel consisted of sharing similar education, social cultural environment in the past, and hobbies/interests.

<sup>d</sup> The item-parcel consisted of sharing similar family background, religion, education, hardship in the past, and hobbies/interests.

<sup>e</sup> The significant level was bordering at  $p = 0.05$ .

### C.1 A Review of Key Trust Scales

Earliest development of trust was broadly related to trust in human nature or people in general. Rotter (1967, 1971) constructed the earliest measurement of interpersonal trust. He defines trust as “an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon” (Rotter 1967, p. 651). The Interpersonal Trust Scale consists of 25 items dealing with specific measures<sup>1</sup> of respondents’ trust of parents, teachers, physicians, politicians, classmates and friends, and broader measures<sup>2</sup> of a more general optimism regarding the society. The 15-item version is listed in the footnote of Wheelless (1978). This thesis views that the Interpersonal Trust Scale is not applicable to the present context of the study.

More recent approaches focus on trust in a specific close relationship. Larzelere and Huston (1980) developed the first interpersonal trust scale, called the Dyadic Trust Scale in this context. They define that “trust exists to the extent that a person believes another person to be benevolent<sup>3</sup> and honest” (Larzelere & Huston 1980, p. 596). The Dyadic Trust Scale differs from Rotter’s (1967, 1971) Interpersonal Trust Scale and Wrightsman’s (1964) Philosophies of Human Nature Scale. The latter two scales measure the general tendency of an individual to trust others. In its discriminant validity, the eight items in the Dyadic Trust Scale correlates more with love<sup>4</sup> and self-disclosure<sup>5</sup> than either Rotter’s (1967) generalised trust or social desirability<sup>6</sup>. This thesis views that the Dyadic Trust Scale is not relevant to the present study.

Further, Johnson-George and Swap (1982) developed Specific Interpersonal Trust Scale (SITS) for assessment of an individual’s trust in another in meaningful relationships. For male subjects, the scale consists of three subscales: general trust, reliableness and emotional trust. For female subjects, similar, but not identical, reliableness and emotional trust factors were found. Since SITS measures specific type of trust in a specific relationship with family or friends, this thesis views that the contexts of all the items of the scale are not transferable to the present context of the study.

Furthermore, Rempel, Holmes and Zanna (1985) approached the theory of trust in close relationships differently by taking account of attributions of interpersonal

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<sup>1</sup> Rotter (1967, p. 654) gives examples of the specific measures. They are (1) In dealing with strangers one is better off to be cautious until they have provided evidence that they are trustworthy. (2) Parents usually can be relied upon to keep their promises. (3) Parents and teachers are likely to say what they believe themselves and not just what they think is good for the child to hear.

<sup>2</sup> Rotter (1967, p. 654) gives one example of the broader measures. It is “Most elected public officials are really sincere in their campaign promises.

<sup>3</sup> Larzelere and Huston (1980) define benevolence as the extent to which an individual is genuinely interested in a partner’s welfare and motivated to seek maximum joint gain.

<sup>4</sup> Love was measured using four of the 12 items on Rubin’s (1970) Love Scale.

<sup>5</sup> Self-disclosure was measured using 60 of Taylor and Altman’s (1966a, 1966b) items tapping on six topical areas. They were religion, family background, emotions and feelings, relationships with other people, school and work, and own marriage and family.

<sup>6</sup> Social desirability was measured using the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964).

## Appendix C

motives. They adopt Rotter's (1980) notion of generalised expectancy for trust and regard trust "as a generalised expectation related to the subject probability an individual assigns to the occurrence of some set of future events" (p. 96). The Trust Scale consists of three components: predictability, dependability and faith. Faith correlates strongly with love and happiness (the Rubin's (1973) Liking and Love Scales). Dependability is weakly associated with love and happiness. For couples, feelings of faith are therefore a more salient and central concern than dependability and predictability. This thesis views that the items are not applicable to the context of the present study.

In addition to the development of trust in people in general, called Generalised Trust<sup>7</sup> and trust in specific relationships partners, called Partner Trust<sup>8</sup>, Couch, Adams and Jones (1996) extended the conception to include trust in friends and family members, called Network Trust<sup>9</sup>. The three a priori domains of trust are called the Trust Inventory. After the validity<sup>10</sup> of the Trust Inventory was assessed in a number of ways, the results show that the Partner Trust and Generalised Trust scales demonstrate the clear underlying constructs. However, the Network Trust scale shows weak evidence of its validity as a distinct construct. Furthermore, Couch and Jones (1997) carried out more validity tests of the Trust Inventory. They suggested that "Network Trust occupied an intermediate position on a hypothetical continuum from intimate partners to human nature" (p. 333). Additional research is required to determine whether Network Trust is distinct from Partner Trust and Generalised Trust. Inspection of the Partner Trust and Generalised Trust items suggests that they are not relevant to the context of the present study.

In summary, none of the items in the various interpersonal trust scales could be selected or modified to fit the conceptual framework of business trust values. Neither is there other conceptual system in the discipline of management that relates to business trust can be borrowed. For example, the five items of the Interpersonal Trust scale measuring trust between buyers and suppliers in Zaheer, McEvily and Perrone (1998) are not relevant to the present context. Plank, Reid and Pullins (1999) developed four items to measure salesperson trust<sup>11</sup>. It is concluded that the items are not applicable to the present study.

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<sup>7</sup> Couch, Adams and Jones (1996, p. 307) define Generalised Trust "as the tendency to assume positive characteristics of people in general, or to attribute such characteristics to human nature."

<sup>8</sup> Couch, Adams and Jones (1996, p. 307) define Partner Trust "as faith or confidence in a romantic partner or in romantic relationships."

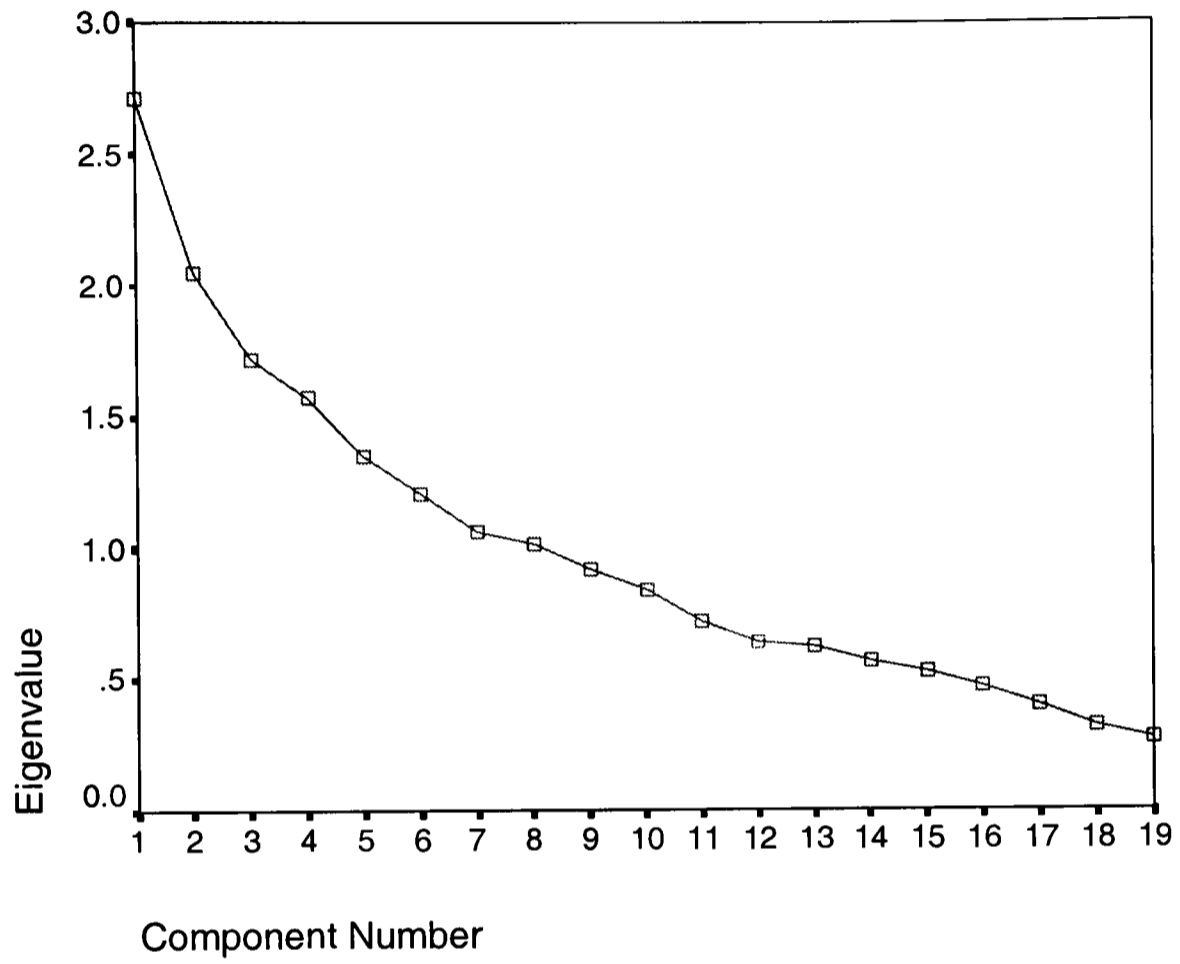
<sup>9</sup> Couch, Adams and Jones (1996, p. 307) define Network Trust "as the feelings of confidence and security one has in relationships with family and friends."

<sup>10</sup> Validity of a scale is explained later in Chapter 7 under 7.1.2.3.

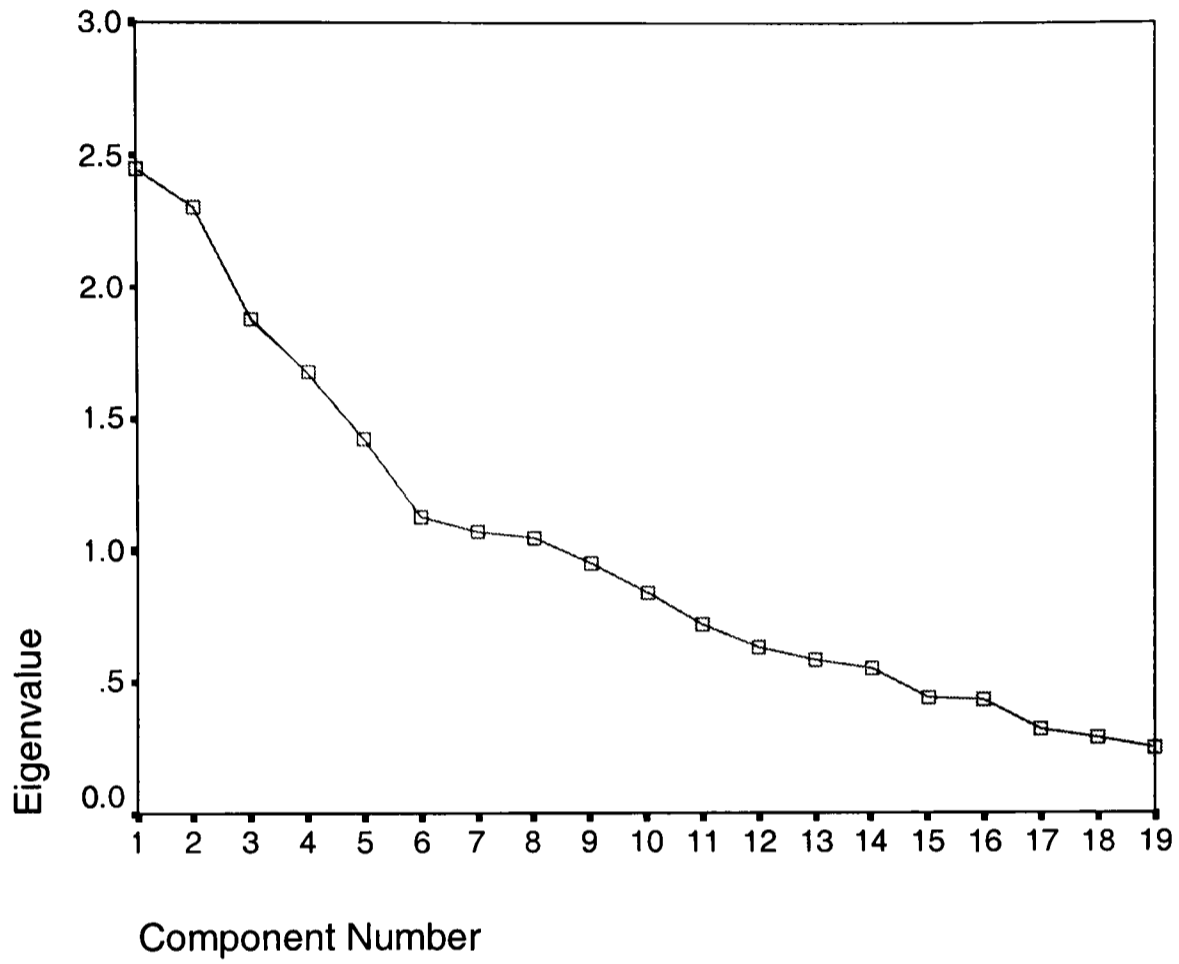
<sup>11</sup> Plank, Reid and Pullins (1999, p.62) define salesperson trust as "the belief that the salesperson will fulfill his/her obligations as understood by the buyer".

## Appendix C

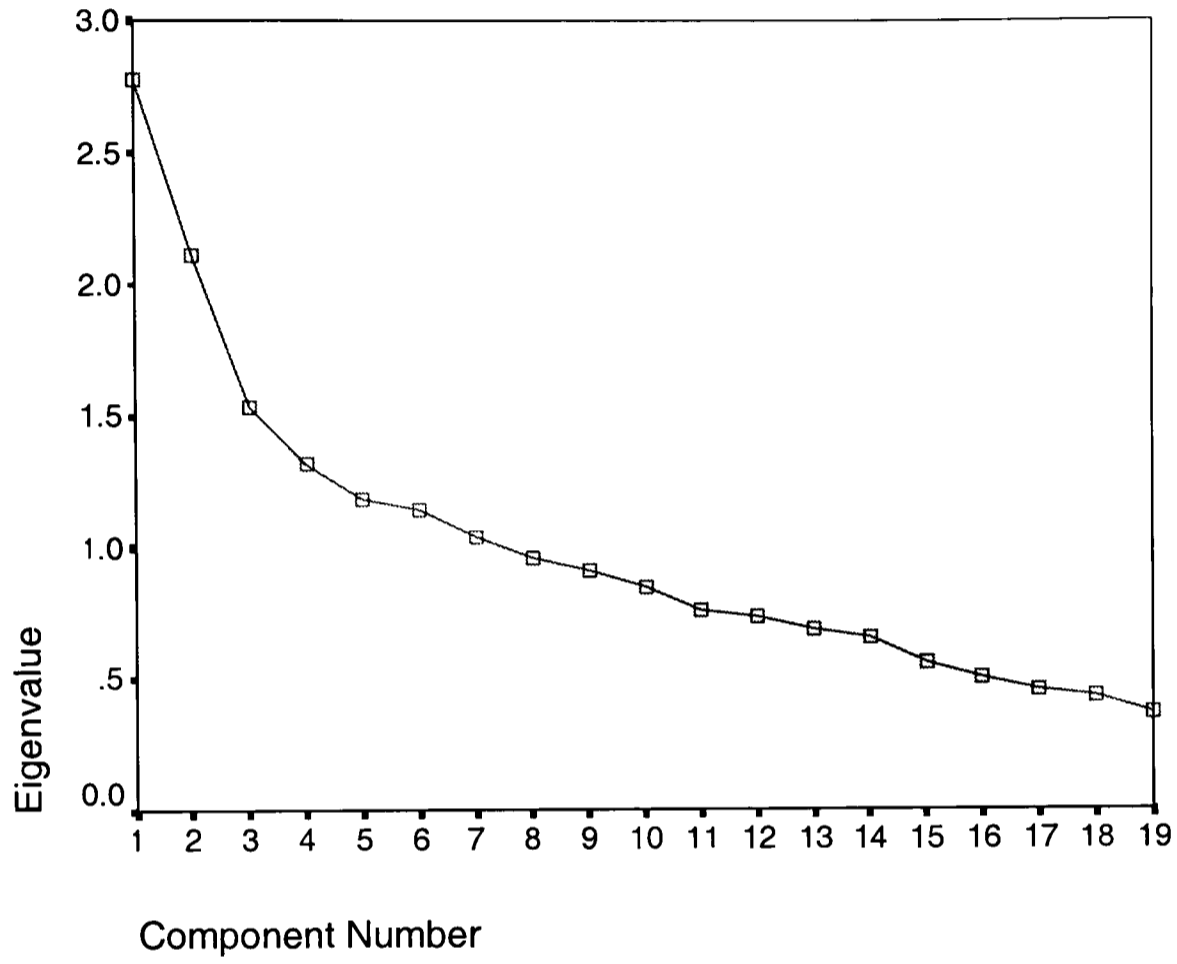
### C.2 The First Procedure - The Scree-Plot of the Two-Factor Structure in the UK Sample



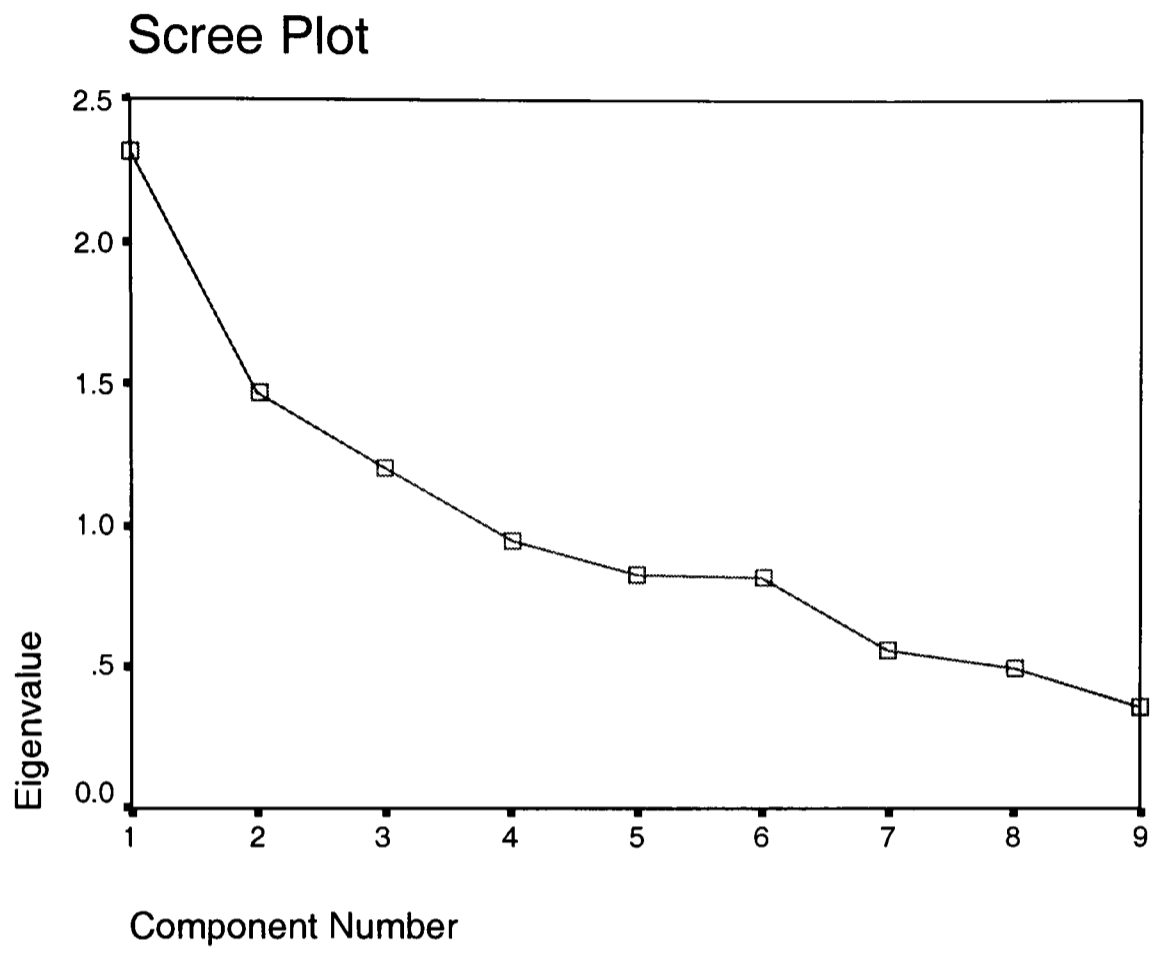
C.3 The First Procedure - The Scree-Plot of the Three-Factor Structure in the HK Sample



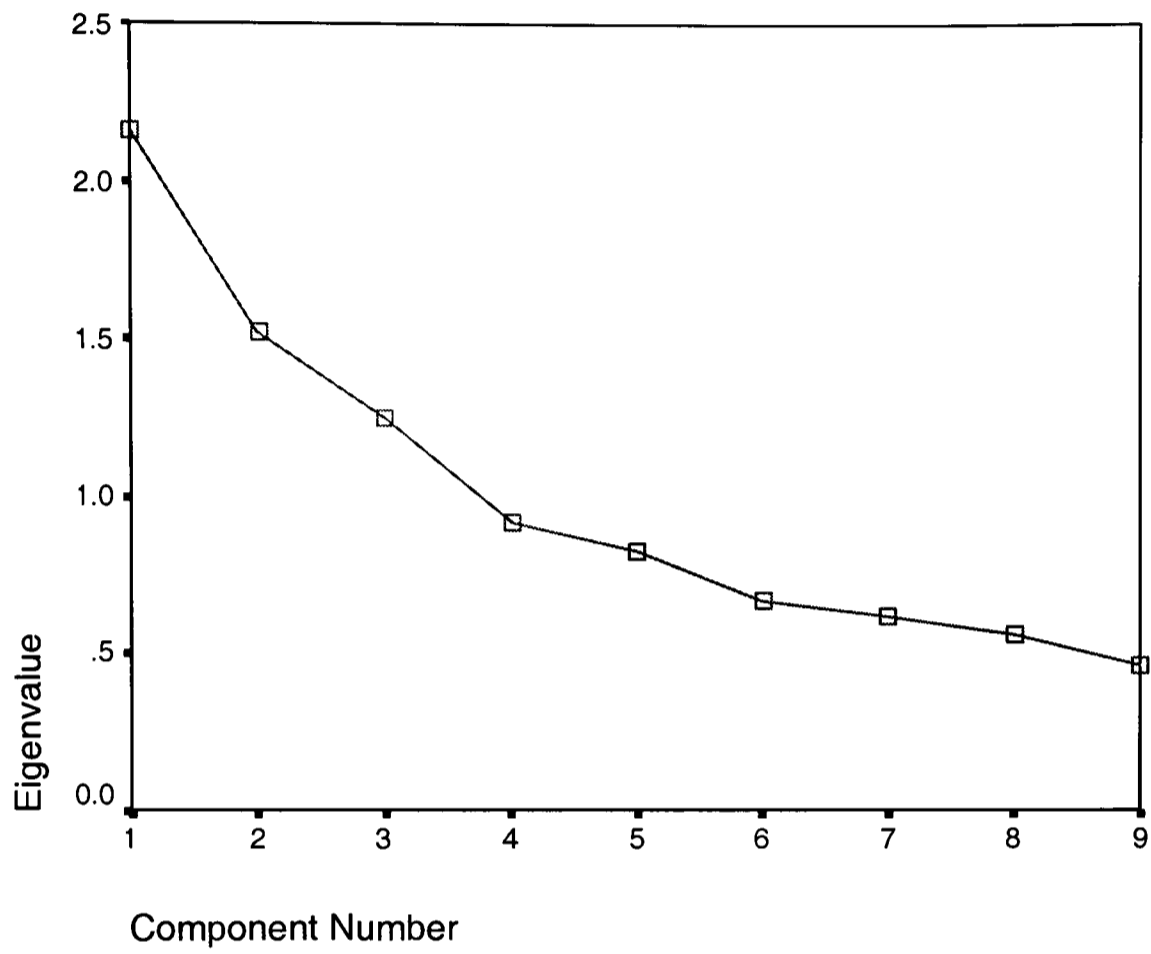
C.4 The Second Procedure - The Scree-Plot of the Three-Factor Structure in the Combined Sample



C.5 The Second Procedure - The Scree-Plot of the Two-Factor Structure of Individualism in the UK Sample

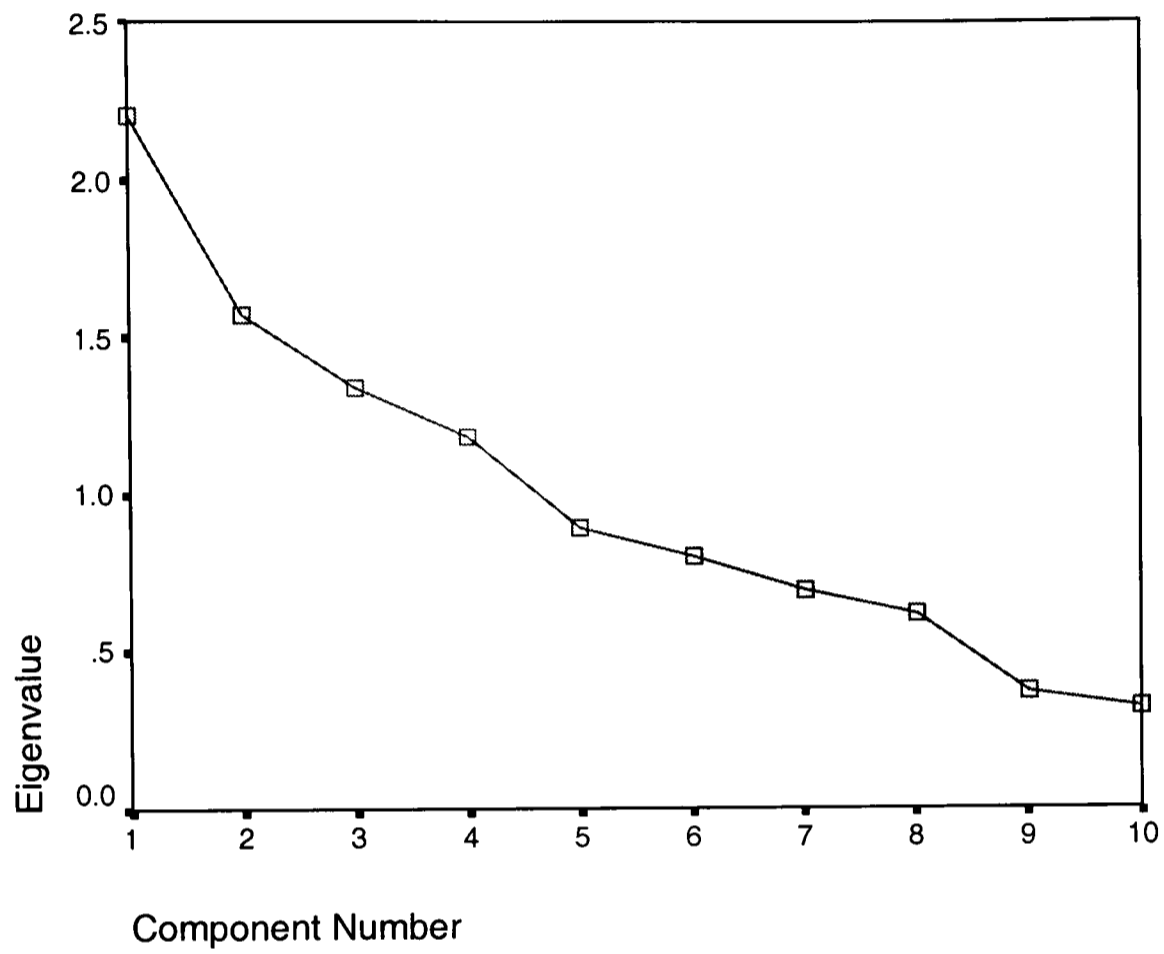


C.6 The Second Procedure - The Scree-Plot of the Three-Factor Structure of Individualism in the HK Sample



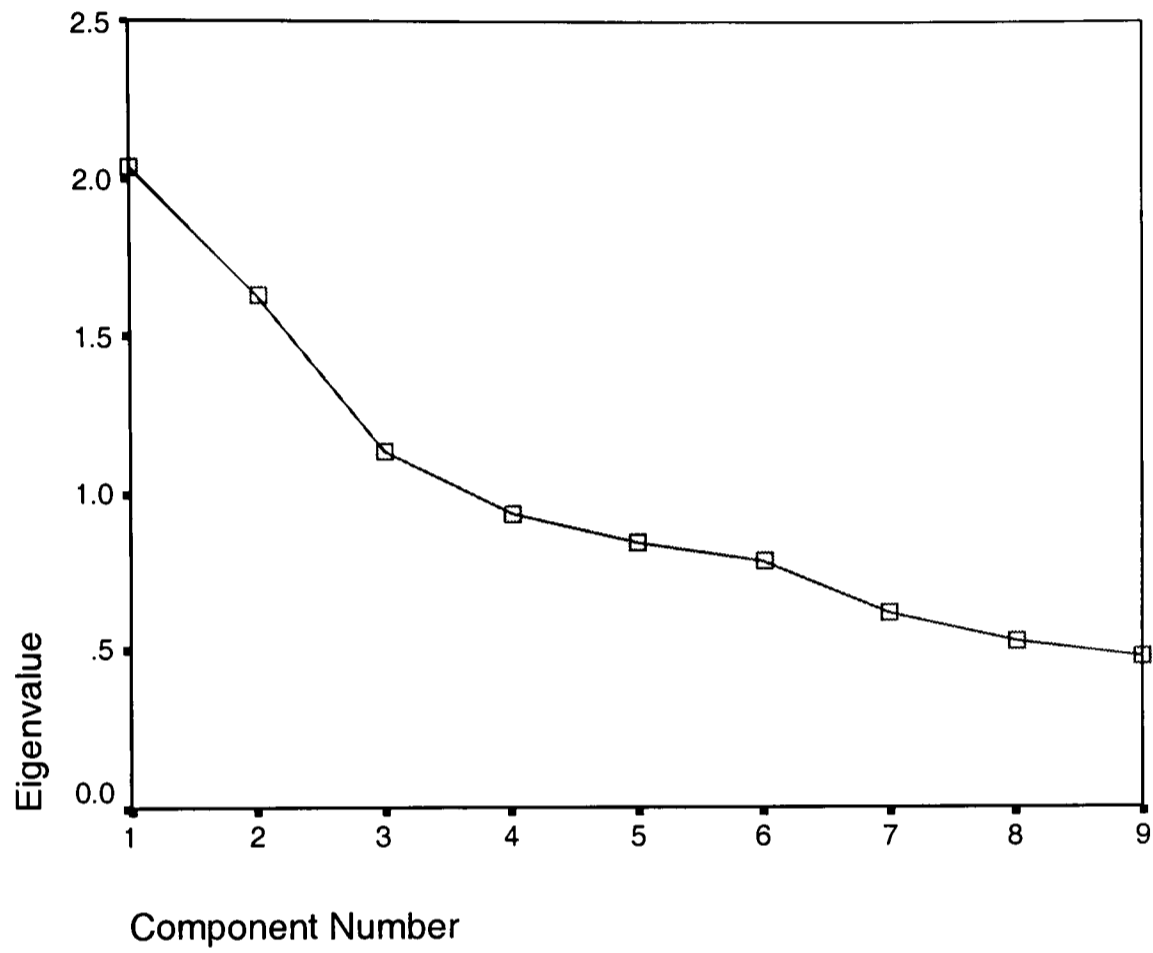
## Appendix C

### C.7 The Second Procedure - The Scree-Plot of the One-Factor Structure of Collectivism in the HK Sample

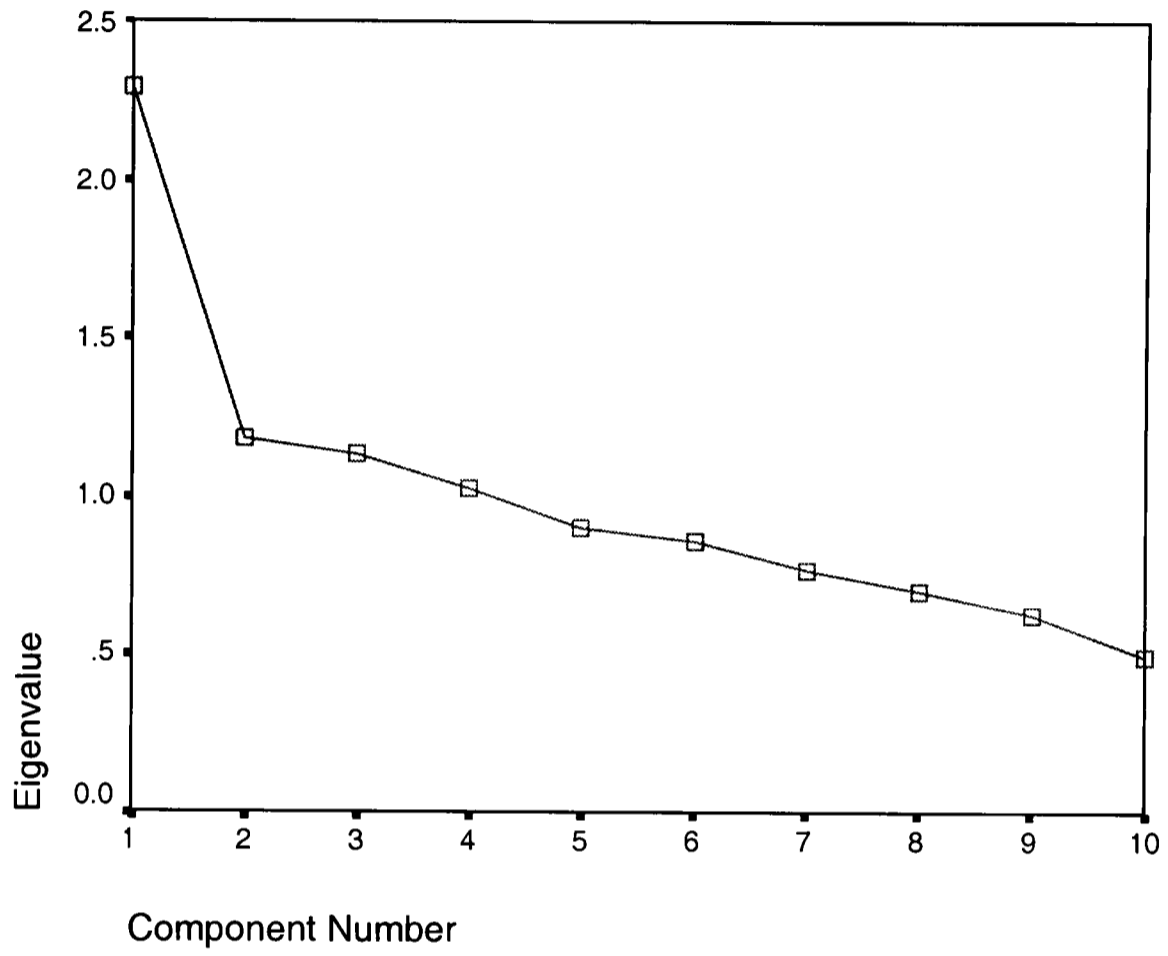


## Appendix C

### C.8 The Second Procedure - The Scree-Plot of the Two-Factor Structure of Individualism in the Combined Sample



C.9 The Second Procedure - The Scree-Plot of the One-Factor Structure of Collectivism in the Combined Sample



Appendix C

C.10 AMOS Output of Fit Measures of the Discretionary and Ethical Trust Factors in the UK Sample

Fit Measure	Model	Saturated	Independence
Discrepancy	26.243	0.000	132.677
Degrees of freedom	19	0	28
P	0.124		0.000
Number of parameters	17	36	8
Discrepancy / df	1.381		4.738
RMR	0.150	0.000	0.617
GFI	0.948	1.000	0.754
Adjusted GFI	0.901		0.684
Parsimony-adjusted GFI	0.500		0.587
Normed fit index	0.802	1.000	0.000
Relative fit index	0.709		0.000
Incremental fit index	0.936	1.000	0.000
Tucker-Lewis index	0.898		0.000
Comparative fit index	0.931	1.000	0.000
Parsimony ratio	0.679	0.000	1.000
Parsimony-adjusted NFI	0.544	0.000	0.000
Parsimony-adjusted CFI	0.632	0.000	0.000
Noncentrality parameter estimate	7.243	0.000	104.677
NCP lower bound	0.000	0.000	72.538
NCP upper bound	24.852	0.000	144.355
FMIN	0.243	0.000	1.228
F0	0.067	0.000	0.969
F0 lower bound	0.000	0.000	0.672
F0 upper bound	0.230	0.000	1.337
RMSEA	0.059		0.186
RMSEA lower bound	0.000		0.155
RMSEA upper bound	0.110		0.218
P for test of close fit	0.355		0.000
Akaike information criterion (AIC)	60.243	72.000	148.677
Browne-Cudeck criterion	63.334	78.545	150.132
Bayes information criterion	141.347	243.748	186.843
Consistent AIC	122.996	204.889	178.208
Expected cross validation index	0.558	0.667	1.377
ECVI lower bound	0.491	0.667	1.079
ECVI upper bound	0.721	0.667	1.744
MECVI	0.586	0.727	1.390
Hoelter .05 index	125		34
Hoelter .01 index	149		40

## C.11 AMOS Table Output for the Discretionary and Ethical Trust Factors in the UK Sample (223 Bootstrap Samples after 1,000 Samples)

		Bootstrap							BC Confidence				
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P	
tq1	<--	Discretionary Trust	0.475	0.140	3.385	0.001	0.152	0.007	0.476	0.001	0.190	0.697	0.013
tq2	<--	Discretionary Trust	0.768	0.226	3.396	0.001	0.414	0.020	0.841	0.073	0.346	1.555	0.009
tq4	<--	Ethical Trust	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
tq12	<--	Ethical Trust	-0.829	0.238	-3.482	0.000	0.300	0.014	-0.852	-0.023	-1.376	-0.421	0.007
tq3	<--	Ethical Trust	0.261	0.093	2.816	0.005	0.120	0.006	0.265	0.003	0.122	0.491	0.004
tq9	<--	Ethical Trust	0.655	0.196	3.337	0.001	0.252	0.012	0.702	0.047	0.310	1.054	0.015
tq13	<--	Ethical Trust	-0.741	0.233	-3.186	0.001	0.317	0.015	-0.786	-0.044	-1.318	-0.375	0.011
tq3	<--	Discretionary Trust	1.000				0.000	0.000	1.000	0.000	1.000	1.000	...
tq5	<--	Discretionary Trust	0.284	0.123	2.307	0.021	0.255	0.012	0.345	0.061	0.004	0.781	0.073
Standardized Regression Weights		Estimate					SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
tq1	<--	Discretionary Trust	0.508				0.119	0.006	0.491	-0.017	0.217	0.647	0.012
tq2	<--	Discretionary Trust	0.513				0.150	0.007	0.534	0.021	0.222	0.682	0.025
tq4	<--	Ethical Trust	0.616				0.126	0.006	0.615	-0.001	0.428	0.793	0.007
tq12	<--	Ethical Trust	-0.551				0.127	0.006	-0.535	0.015	-0.743	-0.310	0.007
tq3	<--	Ethical Trust	0.316				0.114	0.005	0.307	-0.009	0.136	0.499	0.006
tq9	<--	Ethical Trust	0.501				0.131	0.006	0.513	0.012	0.215	0.687	0.025
tq13	<--	Ethical Trust	-0.462				0.124	0.006	-0.462	0.000	-0.677	-0.256	0.008
tq3	<--	Discretionary Trust	0.867				12.945	0.613	2.105	1.238	0.596	1.256	0.008
tq5	<--	Discretionary Trust	0.274				0.153	0.007	0.294	0.021	0.007	0.535	0.084

## Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
Discretionary Trust	1.056	0.318	3.319	0.001	2205.4	104.4	202.2	201.1	147.7	0.525	2.914	0.005
Ethical Trust	2.046	0.782	2.615	0.009	1.027	0.049	2.134	0.088	0.069	0.973	3.664	0.006
E1	0.684	0.112	6.130	0.000	0.133	0.006	0.681	-0.003	0.009	0.499	0.978	0.004
E3	1.055	0.147	7.185	0.000	0.254	0.012	0.980	-0.075	0.017	0.720	1.663	0.001
E8	4.146	0.666	6.226	0.000	0.718	0.034	4.051	-0.095	0.048	3.065	5.464	0.004
E2	1.749	0.287	6.089	0.000	0.630	0.030	1.620	-0.129	0.042	0.959	2.941	0.004
E4	0.209	0.270	0.774	0.439	2205.4	104.4	-200.9	-201.2	147.7	-0.911	0.758	0.518
E5	3.340	0.699	4.781	0.000	0.965	0.046	3.231	-0.109	0.065	2.094	4.574	0.011
E6	2.625	0.441	5.955	0.000	0.529	0.025	2.505	-0.120	0.035	1.854	3.509	0.002
E7	3.229	0.586	5.514	0.000	0.685	0.032	3.216	-0.013	0.046	1.833	4.177	0.014

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
tq9	0.251	0.128	0.006	0.280	0.029	0.009	0.047	0.471	0.025
tq13	0.213	0.118	0.006	0.229	0.015	0.008	0.066	0.458	0.008
tq5	0.075	0.099	0.005	0.110	0.035	0.007	0.000	0.286	0.016
tq3	0.851	1940.6	91.9	171.4	170.5	129.9	0.440	1.622	0.009
tq12	0.304	0.134	0.006	0.303	-0.001	0.009	0.096	0.552	0.007
tq4	0.380	0.179	0.008	0.394	0.015	0.012	0.183	0.629	0.007
tq2	0.263	0.173	0.008	0.307	0.045	0.012	0.051	0.465	0.025
tq1	0.258	0.099	0.005	0.255	-0.003	0.007	0.047	0.419	0.012

Bollen-Stine Bootstrap

The model fit better in 223 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 777 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.22$

## Appendix C

### C.12 Normality Check of Discretionary Trust and Ethical Trust Factors in the UK Sample (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
tq9	-4.000	4.000	-0.800	-3.411	-0.062	-0.131
tq13	-4.000	4.000	-0.383	-1.634	-1.001	-2.133
tq5	-2.000	4.000	-1.529	-6.516	3.882	8.273
tq3	-1.000	4.000	-0.800	-3.409	0.560	1.194
tq12	-4.000	4.000	-0.068	-0.289	-1.190	-2.536
tq4	-4.000	4.000	-0.452	-1.925	-0.935	-1.993
tq2	-4.000	4.000	-1.568	-6.683	3.557	7.580
tq1	0.000	4.000	-0.804	-3.425	0.305	0.650
Multivariate					12.794	5.280

Observations farthest from the centroid (Mahalanobis distance)

<u>Observation</u> <u>number</u>	<u>Mahalanobis</u> <u>d-squared</u>	<u>p1</u>	<u>p2</u>
5	32.153	0.000	0.009

## Appendix C

C.13 AMOS Output of Fit Measures of the Discretionary Trust Factor in the HK Sample

<u>Fit Measure</u>	<u>Model</u>	<u>Saturated</u>	<u>Independence</u>
Discrepancy	3.151	0.000	66.381
Degrees of freedom	2	0	6
P	0.207		0.000
Number of parameters	8	10	4
Discrepancy / df	1.576		11.063
RMR	0.098	0.000	0.625
GFI	0.985	1.000	0.724
Adjusted GFI	0.926		0.540
Parsimony-adjusted GFI	0.197		0.434
Normed fit index	0.953	1.000	0.000
Relative fit index	0.858		0.000
Incremental fit index	0.982	1.000	0.000
Tucker-Lewis index	0.943		0.000
Comparative fit index	0.981	1.000	0.000
Parsimony ratio	0.333	0.000	1.000
Parsimony-adjusted NFI	0.318	0.000	0.000
Parsimony-adjusted CFI	0.327	0.000	0.000
Noncentrality parameter estimate	1.151	0.000	60.381
NCP lower bound	0.000	0.000	37.817
NCP upper bound	10.281	0.000	90.399
FMIN	0.031	0.000	0.651
F0	0.011	0.000	0.592
F0 lower bound	0.000	0.000	0.371
F0 upper bound	0.101	0.000	0.886
RMSEA	0.075		0.314
RMSEA lower bound	0.000		0.249
RMSEA upper bound	0.224		0.384
P for test of close fit	0.288		0.000
Akaike information criterion (AIC)	19.151	20.000	74.381
Browne-Cudeck criterion	19.976	21.031	74.793
Bayes information criterion	51.320	60.210	90.465
Consistent AIC	48.229	56.347	88.920
Expected cross validation index	0.188	0.196	0.729
ECVI lower bound	0.176	0.196	0.508
ECVI upper bound	0.277	0.196	1.024
MECVI	0.196	0.206	0.733
Hoelter .05 index	194		20
Hoelter .01 index	299		26

## C.14 AMOS Table Output for the Discretionary Trust Factor in the HK Sample (221 Bootstrap Samples after 1,000 Samples)

		Bootstrap						BC Confidence						
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
tq2	<--	Discretionary Trust	0.771	0.222	3.479	0.001	0.420	0.020	0.787	0.016	0.028	0.369	1.866	0.005
tq1	<--	Discretionary Trust	1.000			0.000	0.000	1.000	0.000	0.000		1.000	1.000	...
tq3	<--	Discretionary Trust	1.108	0.256	4.321	0.000	0.598	0.028	1.191	0.084	0.040	0.534	2.596	0.004
tq5	<--	Discretionary Trust	0.802	0.206	3.890	0.000	0.346	0.016	0.850	0.048	0.023	0.389	1.411	0.011
Standardized Regression Weights														
		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P					
tq2	<--	Discretionary Trust	0.446	0.150	0.007	0.422	-0.023	0.010	0.231	0.727	0.007	0.481	1.002	0.014
tq1	<--	Discretionary Trust	0.723	0.174	0.008	0.748	0.024	0.012	0.356	0.889	0.010	0.308	0.690	0.016
tq3	<--	Discretionary Trust	0.680	0.156	0.007	0.669	-0.010	0.010						
tq5	<--	Discretionary Trust	0.516	0.117	0.006	0.519	0.003	0.008						
Variances														
		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
		Discretionary Trust	0.939	0.294	3.199	0.001	0.596	0.028	1.045	0.106	0.040	0.315	1.841	0.013
	E4		1.343	0.305	4.400	0.000	0.465	0.022	1.250	-0.093	0.031	0.641	2.132	0.002
	E1		0.856	0.227	3.762	0.000	0.512	0.024	0.695	-0.161	0.034	0.174	1.588	0.053
	E2		2.255	0.351	6.429	0.000	0.595	0.028	2.266	0.010	0.040	1.332	3.269	0.008
	E3		1.665	0.274	6.080	0.000	0.370	0.018	1.576	-0.089	0.025	1.151	2.340	0.002

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
tq5	0.266	0.123	0.006	0.283	0.017	0.008	0.095	0.475	0.016
tq3	0.462	0.199	0.009	0.472	0.010	0.013	0.127	0.790	0.010
tq1	0.523	0.287	0.014	0.589	0.066	0.019	0.231	1.004	0.014
tq2	0.199	0.127	0.006	0.200	0.002	0.009	0.054	0.528	0.004

Bollen-Stine Bootstrap

The model fit better in 221 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 779 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.22$

## Appendix C

### C.15 Normality Check of Discretionary Trust Factor in the HK Sample (N = 103)

	min	max	skew	c.r.	kurtosis	c.r.
tq5	-2.000	4.000	-1.547	-6.408	2.074	4.297
tq3	-3.000	4.000	-0.960	-3.976	0.671	1.390
tq1	-2.000	4.000	-1.481	-6.137	2.655	5.499
tq2	-4.000	4.000	-1.071	-4.439	0.878	1.819
Multivariate					17.483	12.805

#### Observations farthest from the centroid (Mahalanobis distance)

<u>Observation</u> <u>number</u>	<u>Mahalanobis</u> <u>d-squared</u>	<u>p1</u>	<u>p2</u>
15	24.668	0.000	0.006
97	20.958	0.000	0.001
41	20.604	0.000	0.000

Appendix C

C.16 AMOS Output of Fit Measures of the Institution-Based and Ethical Trust Factors in the UK Sample

<u>Fit Measure</u>	<u>Model</u>	<u>Saturated</u>	<u>Independence</u>
Discrepancy	29.720	0.000	195.852
Degrees of freedom	19	0	28
P	0.055		0.000
Number of parameters	17	36	8
Discrepancy / df	1.564		6.995
RMR	0.318	0.000	0.946
GFI	0.938	1.000	0.662
Adjusted GFI	0.883		0.566
Parsimony-adjusted GFI	0.495		0.515
Normed fit index	0.848	1.000	0.000
Relative fit index	0.776		0.000
Incremental fit index	0.939	1.000	0.000
Tucker-Lewis index	0.906		0.000
Comparative fit index	0.936	1.000	0.000
Parsimony ratio	0.679	0.000	1.000
Parsimony-adjusted NFI	0.576	0.000	0.000
Parsimony-adjusted CFI	0.635	0.000	0.000
Noncentrality parameter estimate	10.720	0.000	167.852
NCP lower bound	0.000	0.000	127.177
NCP upper bound	29.606	0.000	216.021
FMIN	0.275	0.000	1.813
F0	0.099	0.000	1.554
F0 lower bound	0.000	0.000	1.178
F0 upper bound	0.274	0.000	2.000
RMSEA	0.072		0.236
RMSEA lower bound	0.000		0.205
RMSEA upper bound	0.120		0.267
P for test of close fit	0.217		0.000
Akaike information criterion (AIC)	63.720	72.000	211.852
Browne-Cudeck criterion	66.811	78.545	213.307
Bayes information criterion	144.824	243.748	250.019
Consistent AIC	126.473	204.889	241.383
Expected cross validation index	0.590	0.667	1.962
ECVI lower bound	0.491	0.667	1.585
ECVI upper bound	0.765	0.667	2.408
MECVI	0.619	0.727	1.975
Hoelter .05 index	110		23
Hoelter .01 index	132		27

C.17 AMOS Table Output for the Institution-Based and Ethical Trust Factors in the UK Sample (147 Bootstrap Samples after 1,000 Samples)

		Bootstrap						BC Confidence					
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P	
ibt2	<--	0.675	0.148	4.551	0.000	0.150	0.009	0.671	-0.004	0.012	0.344	0.892	0.021
ibt3	<--	0.557	0.127	4.372	0.000	0.135	0.008	0.547	-0.011	0.011	0.357	0.780	0.007
ibt4	<--	1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
ibt6	<--	0.643	0.128	5.035	0.000	0.175	0.010	0.655	0.012	0.014	0.387	0.987	0.011
tq4	<--	1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
tq9	<--	0.656	0.213	3.079	0.002	0.241	0.014	0.677	0.021	0.020	0.172	1.018	0.023
tq12	<--	-0.840	0.262	-3.209	0.001	0.360	0.021	-0.860	-0.019	0.030	-1.558	-0.403	0.008
tq13	<--	-0.864	0.272	-3.173	0.002	0.379	0.022	-0.903	-0.039	0.031	-1.807	-0.502	0.008
Standardized Regression Weights		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P				
ibt2	<--	0.545	0.088	0.005	0.536	-0.009	0.007	0.383	0.661	0.013			
ibt3	<--	0.516	0.099	0.006	0.500	-0.016	0.008	0.395	0.683	0.003			
ibt4	<--	0.942	0.105	0.006	0.947	0.005	0.009	0.833	1.173	0.006			
ibt6	<--	0.636	0.117	0.007	0.637	0.001	0.010	0.429	0.822	0.014			
tq4	<--	0.596	0.141	0.008	0.603	0.007	0.012	0.396	0.809	0.013			
tq9	<--	0.485	0.143	0.008	0.488	0.003	0.012	0.096	0.651	0.038			
tq12	<--	-0.540	0.133	0.008	-0.519	0.020	0.011	-0.750	-0.340	0.006			
tq13	<--	-0.520	0.120	0.007	-0.508	0.012	0.010	-0.742	-0.350	0.006			

Appendix C

Covariances		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
E1	<--> E2	0.881	0.343	2.571	0.010	0.374	0.022	0.933	0.052	0.228	1.585	0.019
Correlations		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P			
E1	<--> E2	0.306	0.119	0.007	0.328	0.022	0.010	0.063	0.477	0.038		
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P
Institution-Based Trust		2.993	0.666	4.491	0.000	0.757	0.044	3.010	0.017	2.236	4.488	0.006
Ethical Trust		1.911	0.791	2.415	0.016	1.087	0.063	2.072	0.161	0.753	3.610	0.014
E4		1.824	0.319	5.710	0.000	0.495	0.029	1.741	-0.083	1.031	2.794	0.006
E8		3.845	0.687	5.600	0.000	0.724	0.042	3.812	-0.032	2.659	5.005	0.011
E1		3.230	0.498	6.487	0.000	0.515	0.030	3.168	-0.062	2.528	4.405	0.005
E3		0.380	0.489	0.778	0.436	0.711	0.041	0.310	-0.070	-1.185	1.027	0.567
E2		2.565	0.386	6.651	0.000	0.404	0.024	2.543	-0.023	1.893	3.278	0.009
E5		3.474	0.732	4.745	0.000	1.049	0.061	3.292	-0.183	1.807	4.671	0.031
E6		2.681	0.453	5.915	0.000	0.551	0.032	2.550	-0.130	1.962	4.030	0.002
E7		3.286	0.608	5.404	0.000	0.716	0.042	3.274	-0.012	1.831	4.266	0.023

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
tq12	0.291	0.136	0.008	0.287	-0.004	0.011	0.116	0.563	0.006
tq9	0.235	0.130	0.008	0.258	0.024	0.011	0.009	0.424	0.038
tq4	0.355	0.194	0.011	0.384	0.029	0.016	0.156	0.654	0.013
ibt3	0.266	0.094	0.005	0.259	-0.007	0.008	0.156	0.467	0.003
ibt4	0.887	0.223	0.013	0.908	0.020	0.018	0.693	1.376	0.006
ibt2	0.297	0.091	0.005	0.295	-0.002	0.007	0.147	0.437	0.013
tq13	0.271	0.121	0.007	0.273	0.002	0.010	0.122	0.551	0.006
ibt6	0.404	0.149	0.009	0.419	0.015	0.012	0.184	0.676	0.014

Bollen-Stine Bootstrap

The model fit better in 147 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 853 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.15$

C.18 Normality Check of the Institution-Based and Ethical Trust Factors in the UK Sample (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
tq12	-4.000	4.000	-0.068	-0.289	-1.190	-2.536
tq9	-4.000	4.000	-0.800	-3.411	-0.062	-0.131
tq4	-4.000	4.000	-0.452	-1.925	-0.935	-1.993
ibt3	-3.000	4.000	-0.875	-3.730	0.013	0.027
ibt4	-4.000	4.000	-0.716	-3.054	-0.598	-1.275
ibt2	-4.000	4.000	-0.578	-2.462	-0.800	-1.705
tq13	-4.000	4.000	-0.383	-1.634	-1.001	-2.133
ibt6	-4.000	4.000	-1.167	-4.975	0.669	1.426
Multivariate					8.699	3.590

No outliers

C.19 AMOS Output of Fit Measures of Association between Discretionary Trust and Self-Direction in the UK Sample

Fit Measure	Model	Saturated	Independence
Discrepancy	16.959	0.000	112.137
Degrees of freedom	13	0	21
P	0.201		0.000
Number of parameters	15	28	7
Discrepancy / df	1.305		5.340
RMR	0.107	0.000	0.376
GFI	0.963	1.000	0.770
Adjusted GFI	0.921		0.693
Parsimony-adjusted GFI	0.447		0.577
Normed fit index	0.849	1.000	0.000
Relative fit index	0.756		0.000
Incremental fit index	0.960	1.000	0.000
Tucker-Lewis index	0.930		0.000
Comparative fit index	0.957	1.000	0.000
Parsimony ratio	0.619	0.000	1.000
Parsimony-adjusted NFI	0.525	0.000	0.000
Parsimony-adjusted CFI	0.592	0.000	0.000
Noncentrality parameter estimate	3.959	0.000	91.137
NCP lower bound	0.000	0.000	61.655
NCP upper bound	18.798	0.000	128.140
FMIN	0.157	0.000	1.038
F0	0.037	0.000	0.844
F0 lower bound	0.000	0.000	0.571
F0 upper bound	0.174	0.000	1.186
RMSEA	0.053		0.200
RMSEA lower bound	0.000		0.165
RMSEA upper bound	0.116		0.238
P for test of close fit	0.423		0.000
Akaike information criterion (AIC)	46.959	56.000	126.137
Browne-Cudeck criterion	49.359	60.480	127.257
Bayes information criterion	116.518	185.843	158.598
Consistent AIC	102.329	159.358	151.976
Expected cross validation index	0.435	0.519	1.168
ECVI lower bound	0.398	0.519	0.895
ECVI upper bound	0.572	0.519	1.511
MECVI	0.457	0.560	1.178
Hoelter .05 index	143		32
Hoelter .01 index	177		38

## C.20 AMOS Table Output for Discretionary Trust and Self-Direction in the UK Sample (263 Bootstrap Samples after 1,000 Samples)

		Bootstrap							BC Confidence					
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
tq2	<--	Discretionary Trust	0.792	0.235	3.370	0.001	0.758	0.033	0.880	0.088	0.047	0.197	1.695	0.007
tq1	<--	Discretionary Trust	0.453	0.138	3.269	0.001	0.201	0.009	0.457	0.005	0.012	0.070	0.725	0.009
cq13	<--	Self Direction	0.390	0.164	2.376	0.017	0.201	0.009	0.402	0.012	0.012	0.123	0.807	0.006
tq5	<--	Discretionary Trust	0.269	0.124	2.178	0.029	0.269	0.012	0.344	0.075	0.017	-0.009	0.774	0.200
tq3	<--	Discretionary Trust	1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
cq14	<--	Self Direction	1.000				0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
cq17	<--	Self Direction	0.516	0.227	2.269	0.023	0.283	0.012	0.545	0.029	0.017	0.187	1.206	0.004
Standardized Regression Weights		Estimate					SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P	
tq2	<--	Discretionary Trust	0.529				0.186	0.008	0.537	0.007	0.011	0.207	0.784	0.009
tq1	<--	Discretionary Trust	0.485				0.140	0.006	0.466	-0.020	0.009	0.144	0.649	0.010
cq13	<--	Self Direction	0.495				0.140	0.006	0.486	-0.009	0.009	0.257	0.709	0.006
tq5	<--	Discretionary Trust	0.260				0.165	0.007	0.283	0.023	0.010	-0.032	0.473	0.289
tq3	<--	Discretionary Trust	0.872				12.536	0.547	2.215	1.344	0.773	0.593	2.093	0.006
cq14	<--	Self Direction	0.914				0.558	0.024	1.040	0.126	0.034	0.597	1.450	0.012
cq17	<--	Self Direction	0.399				0.140	0.006	0.398	0.000	0.009	0.188	0.657	0.005

Covariances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
Discretionary Trust	<-->	Self Direction	0.190	1.037	0.300	0.171	0.007	0.202	0.013	0.011	-0.103	0.445	0.284	
Correlations		Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P				
Discretionary Trust	<-->	Self Direction	0.122	0.113	0.005	0.128	0.006	0.007	-0.041	0.327	0.214			
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
Discretionary Trust		Discretionary Trust	1.060	0.330	3.209	0.001	3166.5	138.1	285.2	284.1	195.3	0.460	6.073	0.006
		Self Direction	2.271	0.958	2.372	0.018	7.789	0.340	3.692	1.421	0.480	0.990	5.777	0.010
		E4	0.335	0.278	1.205	0.228	3166.5	138.1	-283.8	-284.2	195.3	-3.586	0.903	0.450
		E1	0.705	0.112	6.271	0.000	0.149	0.007	0.702	-0.004	0.009	0.506	1.019	0.005
		E2	1.707	0.292	5.849	0.000	0.763	0.033	1.587	-0.121	0.047	0.837	2.917	0.013
		E3	1.064	0.148	7.185	0.000	0.253	0.011	0.984	-0.080	0.016	0.793	1.732	0.000
		E5	1.066	0.198	5.375	0.000	0.230	0.010	1.015	-0.051	0.014	0.788	1.596	0.001
		E6	0.446	0.888	0.502	0.615	7.778	0.339	-1.044	-1.490	0.480	-2.803	1.599	0.662
		E7	3.199	0.496	6.451	0.000	0.535	0.023	3.101	-0.098	0.033	2.482	4.264	0.002
Squared Multiple Correlations		Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P				
cq17		0.159	0.113	0.005	0.178	0.019	0.007	0.035	0.432	0.005				
cq14		0.836	2.945	0.128	1.392	0.556	0.182	0.356	2.102	0.012				
tq3		0.760	1738.4	75.80	161.5	160.7	107.2	0.352	4.381	0.006				
tq5		0.067	0.097	0.004	0.107	0.040	0.006	0.000	0.223	0.029				
cq13		0.245	0.132	0.006	0.256	0.011	0.008	0.066	0.503	0.006				
tq1		0.236	0.119	0.005	0.236	0.001	0.007	0.021	0.421	0.010				
tq2		0.280	0.284	0.012	0.322	0.042	0.018	0.043	0.615	0.009				

Bollen-Stine Bootstrap

The model fit better in 263 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 737 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.26$

C.21 Normality Check of Discretionary Trust and Self-Direction Factors in the UK Sample (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
cq17	-3.000	4.000	-0.660	-2.815	-0.701	-1.494
cq14	-3.000	4.000	-0.728	-3.104	0.118	0.252
tq3	-1.000	4.000	-0.800	-3.409	0.560	1.194
tq5	-2.000	4.000	-1.529	-6.516	3.882	8.273
cq13	-1.000	4.000	-1.347	-5.741	2.018	4.300
tq1	0.000	4.000	-0.804	-3.425	0.305	0.650
tq2	-4.000	4.000	-1.568	-6.683	3.557	7.580
Multivariate					13.974	6.499

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
5	32.492	0.000	0.004
105	23.538	0.001	0.010

C.22 AMOS Output of Fit Measures of Association between Discretionary Trust and Independence in the HK Sample

<u>Fit Measure</u>	<u>Model</u>	<u>Saturated</u>	<u>Independence</u>
Discrepancy	10.940	0.000	110.563
Degrees of freedom	13	0	21
P	0.616		0.000
Number of parameters	15	28	7
Discrepancy / df	0.842		5.265
RMR	0.115	0.000	0.571
GFI	0.969	1.000	0.705
Adjusted GFI	0.933		0.607
Parsimony-adjusted GFI	0.450		0.529
Normed fit index	0.901	1.000	0.000
Relative fit index	0.840		0.000
Incremental fit index	1.021	1.000	0.000
Tucker-Lewis index	1.037		0.000
Comparative fit index	1.000	1.000	0.000
Parsimony ratio	0.619	0.000	1.000
Parsimony-adjusted NFI	0.558	0.000	0.000
Parsimony-adjusted CFI	0.619	0.000	0.000
Noncentrality parameter estimate	0.000	0.000	89.563
NCP lower bound	0.000	0.000	60.340
NCP upper bound	9.431	0.000	126.311
FMIN	0.107	0.000	1.084
F0	0.000	0.000	0.878
F0 lower bound	0.000	0.000	0.592
F0 upper bound	0.092	0.000	1.238
RMSEA	0.000		0.204
RMSEA lower bound	0.000		0.168
RMSEA upper bound	0.084		0.243
P for test of close fit	0.800		0.000
Akaike information criterion (AIC)	40.940	56.000	124.563
Browne-Cudeck criterion	43.494	60.766	125.755
Bayes information criterion	109.650	184.258	156.628
Consistent AIC	95.461	157.772	150.007
Expected cross validation index	0.401	0.549	1.221
ECVI lower bound	0.422	0.549	0.935
ECVI upper bound	0.514	0.549	1.581
MECVI	0.426	0.596	1.233
Hoelter .05 index	209		31
Hoelter .01 index	259		36

C.23 AMOS Table Output for Discretionary Trust and Independence in the HK Sample (733 Bootstrap Samples after 1,000 Samples)

		Bootstrap							BC Confidence					
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
tq2	<--	Discretionary Trust	0.771	0.216	3.577	0.000	0.355	0.009	0.768	-0.003	0.013	0.301	1.550	0.004
tq1	<--	Discretionary Trust	1.000			0.000	0.000	1.000	0.000	0.000		1.000	1.000	...
cq17	<--	Independence	0.683	0.230	2.968	0.003	0.281	0.007	0.738	0.054	0.010	0.343	1.051	0.006
cq6	<--	Independence	0.493	0.174	2.827	0.005	0.377	0.010	0.568	0.075	0.014	0.195	1.252	0.002
tq5	<--	Discretionary Trust	0.826	0.200	4.123	0.000	0.372	0.010	0.874	0.048	0.014	0.452	1.714	0.002
tq3	<--	Discretionary Trust	1.104	0.235	4.695	0.000	0.513	0.013	1.150	0.046	0.019	0.499	2.253	0.002
cq8	<--	Independence	1.000			0.000	0.000	1.000	0.000	0.000		1.000	1.000	...
Standardized Regression Weights		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P					
tq2	<--	Discretionary Trust	0.444	0.150	0.004	0.428	-0.016	0.006	0.215	0.713	0.004			
tq1	<--	Discretionary Trust	0.720	0.152	0.004	0.739	0.019	0.006	0.490	0.959	0.006			
cq17	<--	Independence	0.544	0.155	0.004	0.554	0.010	0.006	0.233	0.768	0.006			
cq6	<--	Independence	0.468	0.166	0.004	0.467	-0.001	0.006	0.240	0.795	0.001			
tq5	<--	Discretionary Trust	0.529	0.117	0.003	0.535	0.005	0.004	0.324	0.712	0.004			
tq3	<--	Discretionary Trust	0.674	0.152	0.004	0.661	-0.013	0.006	0.388	0.894	0.003			
cq8	<--	Independence	0.591	0.153	0.004	0.581	-0.010	0.006	0.379	0.791	0.002			
Covariances		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P		
Discretionary Trust	<-->	Independence	0.688	0.245	2.807	0.005	0.229	0.006	0.667	-0.022	0.008	0.376	1.162	0.001

Correlations		Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P				
Discretionary Trust	<-->	Independence 0.563	0.154	0.004	0.570	0.007	0.322	0.804	0.005				
Variances		Estimate	S.E.	C.R.	P	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P	
Discretionary Trust		0.931	0.278	3.352	0.001	0.515	0.013	1.040	0.109	0.019	0.341	1.916	0.004
Independence		1.605	0.712	2.255	0.024	1.263	0.033	1.655	0.050	0.047	0.617	3.012	0.002
E4		1.361	0.285	4.780	0.000	0.479	0.013	1.303	-0.058	0.018	0.583	2.121	0.003
E7		1.783	0.353	5.055	0.000	0.477	0.012	1.664	-0.119	0.018	1.108	2.658	0.001
E1		0.864	0.208	4.152	0.000	0.417	0.011	0.752	-0.112	0.015	0.208	1.499	0.043
E2		2.260	0.348	6.492	0.000	0.607	0.016	2.237	-0.023	0.022	1.256	3.233	0.002
E3		1.634	0.268	6.095	0.000	0.387	0.010	1.558	-0.076	0.014	1.120	2.392	0.001
E5		1.390	0.241	5.778	0.000	0.338	0.009	1.322	-0.068	0.012	0.857	1.853	0.008
E6		2.985	0.665	4.486	0.000	1.241	0.032	2.891	-0.094	0.046	1.942	4.024	0.004

## Squared Multiple Correlations

	Estimate	SE	SE-SE Mean	Bias	SE-Bias	Lower	Upper	P	
cq8	0.350	0.329	0.009	0.361	0.011	0.012	0.144	0.625	0.002
tq3	0.455	0.196	0.005	0.460	0.005	0.007	0.151	0.799	0.003
tq5	0.280	0.128	0.003	0.299	0.019	0.005	0.105	0.507	0.004
cq6	0.219	0.175	0.005	0.246	0.027	0.006	0.058	0.632	0.001
cq17	0.296	0.169	0.004	0.331	0.035	0.006	0.054	0.590	0.006
tq1	0.519	0.233	0.006	0.570	0.051	0.009	0.241	0.921	0.006
tq2	0.197	0.132	0.003	0.206	0.009	0.005	0.046	0.508	0.001

Bollen-Stine Bootstrap

The model fit better in 733 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 267 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.73$

## Appendix C

### C.24 Normality Check of Discretionary Trust and Independence Factors in the HK Sample (N = 103)

	min	max	skew	c.r.	kurtosis	c.r.
cq8	-4.000	4.000	-0.769	-3.187	-0.434	-0.900
tq3	-3.000	4.000	-0.960	-3.976	0.671	1.390
tq5	-2.000	4.000	-1.547	-6.408	2.074	4.297
cq6	-2.000	4.000	-0.648	-2.687	0.221	0.459
cq17	-4.000	4.000	-1.352	-5.603	2.149	4.452
tq1	-2.000	4.000	-1.481	-6.137	2.655	5.499
tq2	-4.000	4.000	-1.071	-4.439	0.878	1.819

Multivariate 28.936 13.081

Observations farthest from the centroid (Mahalanobis distance)

<u>Observation</u> <u>number</u>	<u>Mahalanobis</u> <u>d-squared</u>	<u>p1</u>	<u>p2</u>
15	37.910	0.000	0.000
78	26.781	0.000	0.001
97	26.293	0.000	0.000
41	23.588	0.001	0.000

Appendix C

C.25 AMOS Output of Fit Measures of Concurrent Validity of Discretionary Trust and Ethical Trust Using the Construct of “I expect from STs” in the UK Sample

Fit Measure	Model	Saturated	Independence
Discrepancy	42.880	0.000	200.800
Degrees of freedom	32	0	45
P	0.095		0.000
Number of parameters	23	55	10
Discrepancy / df	1.340		4.462
RMR	0.159	0.000	0.556
GFI	0.933	1.000	0.703
Adjusted GFI	0.885		0.637
Parsimony-adjusted GFI	0.543		0.575
Normed fit index	0.786	1.000	0.000
Relative fit index	0.700		0.000
Incremental fit index	0.936	1.000	0.000
Tucker-Lewis index	0.902		0.000
Comparative fit index	0.930	1.000	0.000
Parsimony ratio	0.711	0.000	1.000
Parsimony-adjusted NFI	0.559	0.000	0.000
Parsimony-adjusted CFI	0.661	0.000	0.000
Noncentrality parameter estimate	10.880	0.000	155.800
NCP lower bound	0.000	0.000	115.589
NCP upper bound	32.074	0.000	203.560
FMIN	0.397	0.000	1.859
F0	0.101	0.000	1.443
F0 lower bound	0.000	0.000	1.070
F0 upper bound	0.297	0.000	1.885
RMSEA	0.056		0.179
RMSEA lower bound	0.000		0.154
RMSEA upper bound	0.096		0.205
P for test of close fit	0.382		0.000
Akaike information criterion (AIC)	88.880	110.000	220.800
Browne-Cudeck criterion	94.097	122.474	223.068
Bayes information criterion	203.741	384.666	270.740
Consistent AIC	173.781	313.024	257.714
Expected cross validation index	0.823	1.019	2.044
ECVI lower bound	0.722	1.019	1.672
ECVI upper bound	1.019	1.019	2.487
MECVI	0.871	1.134	2.065
Hoelter .05 index	117		34
Hoelter .01 index	135		38

C.26 AMOS Table Output for Concurrent Validity of Discretionary Trust and Ethical Trust Using the Construct “I expect from STs” in the UK Sample (179 Bootstrap Samples after 1,000 Samples)

		Bootstrap						BC Confidence					
Regression Weights		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean Bias	SE-Bias	Lower	Upper	P	
tq1	<--	Discretionary Trust	0.647	0.165	3.908	0.000	0.248	0.013	0.731	0.084	0.196	1.009	0.041
tq2	<--	Discretionary Trust	1.000			0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
tq4	<--	Ethical Trust	1.000			0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
tq13	<--	Ethical Trust	-0.582	0.172	-3.381	0.001	0.280	0.015	-0.624	-0.042	-1.192	-0.264	0.014
tq9	<--	Ethical Trust	0.499	0.142	3.514	0.000	0.176	0.009	0.533	0.034	0.220	0.749	0.022
tq12	<--	Ethical Trust	-0.608	0.166	-3.673	0.000	0.231	0.012	-0.623	-0.015	-1.165	-0.313	0.007
tq5	<--	Discretionary Trust	0.470	0.163	2.889	0.004	0.249	0.013	0.512	0.042	0.157	1.029	0.024
tq3	<--	Discretionary Trust	1.152	0.296	3.899	0.000	0.609	0.032	1.279	0.127	0.504	1.640	0.036
tq3	<--	Ethical Trust	0.236	0.076	3.113	0.002	0.094	0.005	0.228	-0.008	0.100	0.417	0.005
honf_st	<--	Expect_st	1.000			0.000	0.000	1.000	0.000	0.000	1.000	1.000	...
relif_st	<--	Expect_st	0.822	0.227	3.623	0.000	0.263	0.014	0.874	0.052	0.359	1.261	0.027
Standardized Regression Weights													
		Estimate											
tq1	<--	Discretionary Trust	0.545				0.102	0.005	0.553	0.008	0.240	0.679	0.031
tq2	<--	Discretionary Trust	0.526				0.124	0.007	0.524	-0.002	0.360	0.793	0.007
tq4	<--	Ethical Trust	0.721				0.099	0.005	0.716	-0.005	0.537	0.872	0.012
tq13	<--	Ethical Trust	-0.424				0.131	0.007	-0.432	-0.007	-0.631	-0.224	0.015
tq9	<--	Ethical Trust	0.446				0.122	0.006	0.463	0.017	0.168	0.616	0.036
tq12	<--	Ethical Trust	-0.473				0.122	0.006	-0.463	0.009	-0.678	-0.258	0.009
tq5	<--	Discretionary Trust	0.356				0.150	0.008	0.371	0.015	0.071	0.596	0.051
tq3	<--	Discretionary Trust	0.786				0.189	0.010	0.796	0.009	0.518	1.006	0.015

iq3 <--	Ethical Trust	0.333	0.113	0.006	0.313	-0.020	0.008	0.162	0.520	0.004
honf_st<--	Expect_st	0.806	0.144	0.008	0.800	-0.006	0.011	0.622	1.135	0.004
relif_st<--	Expect_st	0.612	0.124	0.007	0.614	0.002	0.009	0.366	0.788	0.020

Covariances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
Ethical Trust <--> Expect_st	-0.863	0.250	-3.449	0.001	0.269	0.014	-0.828	0.036	0.020	-1.305	-0.368	0.008
Discretionary Trust <--> Expect_st	0.269	0.113	2.377	0.017	0.110	0.006	0.243	-0.026	0.008	0.153	0.646	0.002

Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
Ethical Trust <--> Expect_st	-0.552	0.123	0.006	-0.542	0.010	0.009	-0.784	-0.356	0.006
Discretionary Trust <--> Expect_st	0.356	0.143	0.008	0.350	-0.006	0.011	0.107	0.573	0.019

Variances

	Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
Discretionary Trust	0.655	0.268	2.449	0.014	0.320	0.017	0.637	-0.018	0.024	0.374	1.868	0.002
Ethical Trust	2.800	0.852	3.288	0.001	0.827	0.044	2.820	0.020	0.062	1.277	4.104	0.015
Expect_st	0.874	0.279	3.129	0.002	0.366	0.019	0.873	-0.001	0.027	0.430	1.703	0.006
E1	0.648	0.107	6.050	0.000	0.140	0.007	0.634	-0.014	0.010	0.459	0.974	0.004
E8	4.322	0.649	6.661	0.000	0.679	0.036	4.169	-0.152	0.051	3.197	5.497	0.004
E3	0.996	0.143	6.978	0.000	0.257	0.014	0.925	-0.070	0.019	0.678	1.675	0.001
E4	0.381	0.200	1.910	0.056	0.523	0.028	0.305	-0.076	0.039	-0.047	0.873	0.141
E6	2.807	0.427	6.569	0.000	0.460	0.024	2.661	-0.146	0.034	2.193	3.971	0.001
E7	3.600	0.559	6.438	0.000	0.616	0.033	3.545	-0.056	0.046	2.580	4.702	0.006
E2	1.717	0.277	6.207	0.000	0.572	0.030	1.649	-0.068	0.043	0.881	2.652	0.006
E5	2.585	0.660	3.917	0.000	0.719	0.038	2.550	-0.035	0.054	1.294	3.893	0.010
E10	0.986	0.201	4.910	0.000	0.241	0.013	0.938	-0.048	0.018	0.667	1.404	0.003
E9	0.473	0.230	2.051	0.040	0.352	0.019	0.462	-0.011	0.026	-0.196	1.055	0.183

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
relif_st	0.374	0.151	0.008	0.392	0.018	0.011	0.134	0.621	0.020
honf_st	0.649	0.236	0.012	0.660	0.011	0.018	0.388	1.288	0.004
tq3	0.729	0.391	0.021	0.779	0.050	0.029	0.412	1.089	0.013
tq5	0.127	0.114	0.006	0.160	0.033	0.009	0.005	0.356	0.027
tq12	0.223	0.112	0.006	0.229	0.006	0.008	0.067	0.459	0.009
tq9	0.199	0.109	0.006	0.229	0.030	0.008	0.028	0.379	0.036
tq13	0.180	0.115	0.006	0.203	0.023	0.009	0.050	0.399	0.013
tq4	0.520	0.137	0.007	0.522	0.002	0.010	0.288	0.761	0.012
tq2	0.276	0.138	0.007	0.289	0.013	0.010	0.129	0.630	0.007
tq1	0.297	0.104	0.005	0.316	0.019	0.008	0.058	0.461	0.031

Bollen-Stine Bootstrap

The model fit better in 179 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 821 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.18$

C.27 Normality Check of Concurrent Validity of Discretionary Trust and Ethical Trust Using the Construct “I expect from STs” in the UK Sample (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
relif_st	3.000	9.000	-0.793	-3.380	0.771	1.644
honf_st	3.000	9.000	-1.440	-6.136	3.337	7.111
tq3	-1.000	4.000	-0.800	-3.409	0.560	1.194
tq5	-2.000	4.000	-1.529	-6.516	3.882	8.273
tq12	-4.000	4.000	-0.068	-0.289	-1.190	-2.536
tq9	-4.000	4.000	-0.800	-3.411	-0.062	-0.131
tq13	-4.000	4.000	-0.383	-1.634	-1.001	-2.133
tq4	-4.000	4.000	-0.452	-1.925	-0.935	-1.993
tq2	-4.000	4.000	-1.568	-6.683	3.557	7.580
tq1	0.000	4.000	-0.804	-3.425	0.305	0.650
Multivariate					19.313	6.508

Observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
5	34.328	0.000	0.018
22	31.644	0.000	0.001

Appendix C

C.28 AMOS Output of Fit Measures of Concurrent Validity of Discretionary Trust and Ethical Trust Using the Construct of “I expect from WTs” in the UK Sample

Fit Measure	Model	Saturated	Independence
Discrepancy	46.041	0.000	221.492
Degrees of freedom	33	0	45
P	0.065		0.000
Number of parameters	22	55	10
Discrepancy / df	1.395		4.922
RMR	0.195	0.000	0.663
GFI	0.931	1.000	0.699
Adjusted GFI	0.885		0.632
Parsimony-adjusted GFI	0.559		0.572
Normed fit index	0.792	1.000	0.000
Relative fit index	0.717		0.000
Incremental fit index	0.931	1.000	0.000
Tucker-Lewis index	0.899		0.000
Comparative fit index	0.926	1.000	0.000
Parsimony ratio	0.733	0.000	1.000
Parsimony-adjusted NFI	0.581	0.000	0.000
Parsimony-adjusted CFI	0.679	0.000	0.000
Noncentrality parameter estimate	13.041	0.000	176.492
NCP lower bound	0.000	0.000	133.796
NCP upper bound	35.038	0.000	226.721
FMIN	0.426	0.000	2.051
F0	0.121	0.000	1.634
F0 lower bound	0.000	0.000	1.239
F0 upper bound	0.324	0.000	2.099
RMSEA	0.060		0.191
RMSEA lower bound	0.000		0.166
RMSEA upper bound	0.099		0.216
P for test of close fit	0.318		0.000
Akaike information criterion (AIC)	90.041	110.000	241.492
Browne-Cudeck criterion	95.031	122.474	243.760
Bayes information criterion	199.908	384.666	291.431
Consistent AIC	171.251	313.024	278.405
Expected cross validation index	0.834	1.019	2.236
ECVI lower bound	0.713	1.019	1.841
ECVI upper bound	1.037	1.019	2.701
MECVI	0.880	1.134	2.257
Hoelter .05 index	112		31
Hoelter .01 index	129		35

C.29 AMOS Table Output for Concurrent Validity of Discretionary Trust and Ethical Trust Using the Construct "I expect from WTs" in the UK Sample (198 Bootstrap Samples after 1,000 Samples)

Regression Weights		Bootstrap						BC Confidence						
		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
tq2	<--	Discretionary Trust	1.000			0.000	0.000	1.000	0.000	0.000	1.000	1.000	...	
tq4	<--	Ethical Trust	1.000			0.000	0.000	1.000	0.000	0.000	1.000	1.000	...	
tq13	<--	Ethical Trust	-0.720	0.216	-3.336	0.001	0.269	0.014	-0.738	-0.018	0.019	-1.437	-0.465	0.005
tq9	<--	Ethical Trust	0.654	0.184	3.561	0.000	0.209	0.011	0.697	0.043	0.015	0.304	0.968	0.029
tq12	<--	Ethical Trust	-0.741	0.210	-3.533	0.000	0.249	0.013	-0.747	-0.005	0.018	-1.252	-0.399	0.006
tq5	<--	Discretionary Trust	0.388	0.156	2.490	0.013	0.210	0.011	0.409	0.021	0.015	0.050	0.670	0.063
tq3	<--	Discretionary Trust	1.298	0.381	3.407	0.001	1.711	0.086	1.568	0.270	0.122	0.612	2.803	0.009
tq3	<--	Ethical Trust	0.240	0.086	2.799	0.005	0.117	0.006	0.250	0.011	0.008	0.078	0.427	0.011
hont_wt<--		Expect_wt	1.000			0.000	0.000	1.000	0.000	0.000	1.000	1.000	...	
relif_wt<--		Expect_wt	0.833	0.272	3.058	0.002	0.481	0.024	0.931	0.098	0.034	0.188	1.564	0.018
tq1	<--	Discretionary Trust	0.623	0.160	3.884	0.000	0.237	0.012	0.652	0.030	0.017	0.140	0.844	0.035
Standardized Regression Weights														
		Estimate				SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
tq2	<--	Discretionary Trust	0.511			0.143	0.007	0.527	0.016	0.010	0.279	0.770	0.014	
tq4	<--	Ethical Trust	0.641			0.247	0.012	0.651	0.011	0.018	0.452	0.766	0.014	
tq13	<--	Ethical Trust	-0.466			0.124	0.006	-0.457	0.009	0.009	-0.706	-0.296	0.005	
tq9	<--	Ethical Trust	0.520			0.130	0.007	0.536	0.017	0.009	0.249	0.685	0.030	
tq12	<--	Ethical Trust	-0.512			0.125	0.006	-0.494	0.018	0.009	-0.713	-0.292	0.007	
tq5	<--	Discretionary Trust	0.286			0.156	0.008	0.312	0.026	0.011	0.015	0.499	0.084	
tq3	<--	Discretionary Trust	0.862			0.316	0.016	0.892	0.031	0.022	0.565	1.357	0.009	

Appendix C

tq3	<--	Ethical Trust	0.301				0.116	0.006	0.302	0.002	0.008	0.092	0.479	0.016
honf_wt	<--	Expect_wt	0.833				0.666	0.033	0.910	0.077	0.047	0.621	1.400	0.007
relif_wt	<--	Expect_wt	0.789				0.219	0.011	0.807	0.018	0.016	0.408	1.112	0.017
tq1	<--	Discretionary Trust	0.510				0.116	0.006	0.499	-0.011	0.008	0.260	0.661	0.013

Covariances

		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
Ethical Trust	<-->	Expect_wt	-0.927	0.388	-2.391	0.017	0.484	0.024	-0.955	-0.028	0.034	-1.684	-0.177	0.042

Correlations

		Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P	
Ethical Trust	<-->	Expect_wt	-0.373	0.176	0.009	-0.378	-0.005	0.013	-0.630	-0.054	0.055

Variances

		Estimate	S.E.	C.R.	P	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
Discretionary Trust		0.619	0.270	2.296	0.022	0.365	0.018	0.654	0.035	0.026	0.326	1.567	0.004
Ethical Trust		2.210	0.791	2.795	0.005	5.618	0.282	2.609	0.398	0.399	1.094	3.375	0.012
Expect_wt		2.792	1.024	2.726	0.006	24.522	1.232	4.969	2.177	1.743	1.578	11.176	0.004
E1		0.682	0.112	6.115	0.000	0.144	0.007	0.678	-0.004	0.010	0.493	1.027	0.005
E8		4.126	0.656	6.289	0.000	0.685	0.034	4.063	-0.063	0.049	2.933	5.171	0.010
E4		0.235	0.265	0.886	0.376	1.342	0.067	0.013	-0.221	0.095	-0.634	0.787	0.412
E6		2.558	0.432	5.922	0.000	0.538	0.027	2.405	-0.153	0.038	1.796	3.559	0.002
E10		1.173	0.632	1.856	0.063	1.086	0.055	0.877	-0.296	0.077	-0.562	2.391	0.141
E9		1.228	0.898	1.368	0.171	24.529	1.233	-1.007	-2.234	1.743	-5.448	2.498	0.450
E2		1.753	0.287	6.110	0.000	0.620	0.031	1.646	-0.107	0.044	0.756	2.957	0.006
E3		1.047	0.146	7.159	0.000	0.264	0.013	0.975	-0.072	0.019	0.727	1.768	0.001
E7		3.421	0.572	5.980	0.000	0.633	0.032	3.417	-0.004	0.045	2.252	4.318	0.013
E5		3.176	0.679	4.674	0.000	5.603	0.282	2.731	-0.444	0.398	2.093	4.400	0.013

## Squared Multiple Correlations

	Estimate	SE	SE-SE	Mean	Bias	SE-Bias	Lower	Upper	P
relif_wt	0.623	0.378	0.019	0.699	0.077	0.027	0.170	1.236	0.017
honf_wt	0.695	6.185	0.311	1.270	0.576	0.440	0.386	1.965	0.007
tq3	0.833	1.049	0.053	1.001	0.168	0.075	0.453	1.714	0.012
tq5	0.082	0.104	0.005	0.121	0.040	0.007	0.001	0.249	0.032
tq1	0.260	0.107	0.005	0.263	0.002	0.008	0.068	0.437	0.013
tq12	0.262	0.120	0.006	0.259	-0.003	0.009	0.085	0.508	0.007
tq9	0.270	0.134	0.007	0.304	0.034	0.010	0.062	0.469	0.030
tq13	0.217	0.113	0.006	0.224	0.007	0.008	0.088	0.498	0.005
tq4	0.410	1.022	0.051	0.485	0.074	0.073	0.204	0.586	0.014
tq2	0.261	0.163	0.008	0.298	0.037	0.012	0.078	0.593	0.014

Bollen-Stine Bootstrap

The model fit better in 198 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 802 bootstrap samples.

Testing the null hypothesis that the model is correct,  $P = 0.20$

## Appendix C

### C.30 Normality Check of Concurrent Validity of Discretionary Trust and Ethical Trust Using the Construct “I expect from WTs” in the UK Sample (N = 109)

	min	max	skew	c.r.	kurtosis	c.r.
relif_wt	1.000	9.000	0.283	1.206	0.089	0.189
honf_wt	1.000	9.000	-0.206	-0.878	-0.689	-1.468
tq3	-1.000	4.000	-0.800	-3.409	0.560	1.194
tq5	-2.000	4.000	-1.529	-6.516	3.882	8.273
tq1	0.000	4.000	-0.804	-3.425	0.305	0.650
tq12	-4.000	4.000	-0.068	-0.289	-1.190	-2.536
tq9	-4.000	4.000	-0.800	-3.411	-0.062	-0.131
tq13	-4.000	4.000	-0.383	-1.634	-1.001	-2.133
tq4	-4.000	4.000	-0.452	-1.925	-0.935	-1.993
tq2	-4.000	4.000	-1.568	-6.683	3.557	7.580
 Multivariate					 17.009	 5.731

Observations farthest from the centroid (Mahalanobis distance)

<u>Observation</u> <u>number</u>	<u>Mahalanobis</u> <u>d-squared</u>	<u>p1</u>	<u>p2</u>
5	35.081	0.000	0.013

### D.1 Detailed Explanation of Fit Indexes

Fit indexes are referred as adjuncts to the  $\chi^2$  statistics (Byrne, 2001). Hoyle (1995, p. 7-8) notes that “they are not statistics and cannot be, therefore, used to conduct formal statistical tests of model fit. Instead, they are treated as global indexes of model adequacy...However, the  $\chi^2$  variate is a statistics and its value is evaluated relative to the number of degrees of freedom available in the test...Adjunct fit indexes are goodness of fit indexes, which means larger values are more desirable...There is no definite critical value.” Below is a summary of the background of the fit indexes that are commonly cited by researchers. Their formulas are not covered here but rules of thumb to interpret the indexes are. The fit indexes listed below are not exhaustive. There are other indexes being reported by AMOS output (or other software) but they are not generally referenced in published articles when the main indexes serve the purpose of model evaluation.

#### $\chi^2$ Per degree of freedom ( $\chi^2 / df$ )

One of the first fit statistics to address this limitation is the  $\chi^2 / \text{degree of freedom}$ <sup>1</sup> ratio (Wheaton, Muthen, Alwin & Summers, 1977). A ratio in the range of 2 to 1 or 3 to 1 are indicative of an acceptable fit between the hypothesised model and the sample data (Carmines & Mclver, 1981, p. 80). When  $\chi^2 / df = 1$ , the model is well fitted under the assumption of multivariate normal distribution. In other words, if the fitted model is true, the expected  $\chi^2$  value is equal to the degree of freedom of the fitted model under the assumption of multivariate normality distribution.

---

<sup>1</sup> The number of degree of freedom for the testing model is  $df = p - q$  where  $p$  is the number of sample moments and  $q$  is the number of paths to be estimated, either unfixed path coefficients or variances.  $p = n(n + 1) / 2$  where  $n$  is the number of observed variables.

### Goodness of Fit Index (GFI)

The GFI was derived by Joreskog and Sorbom (1984) for maximum likelihood (ML) and unweighted least squares (ULS)<sup>2</sup> estimation. It is a measure of the relative amount of variances and covariances in S that are accounted for by the implied model  $\Sigma(\theta)$ .

When  $S = \Sigma(\theta)$ ,  $GFI = 1$ , the maximum value (Hu & Bentler, 1995, p. 86). GFI is always between zero and one, where  $GFI > 0.9$  indicates an acceptable fit and  $GFI = 1$  indicates a perfect fit.

GFI is an absolute index that directly assesses how well an a priori model reproduces the sample data. No reference model is used to assess the amount of increment in model fit. On the contrary, the fit indexes listed below are incremental indexes, which measure the proportional improvement in fit by comparing a target model with a more restricted model (called the independence model) as the baseline model (Hu & Bentler, 1995).

### Normed Fit Index (NFI)

Bentler and Bonett (1980) pioneered the logic of adjunct fit indexes in their NFI and nonnormed fit index (NNFI). NFI is obtained by computing the ratio of the  $\chi^2$  of the model being evaluated and the  $\chi^2$  of the independence model<sup>3</sup> as the baseline model, which is then subtracted by one. Therefore, NFI ranges from zero to one. When  $NFI < 0.9$ , the model being evaluated can usually be improved substantially (AMOS help menu).

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<sup>2</sup> The ULS method is not covered here in this thesis since it is not relevant.

### Comparative Fit Index (CFI)

Since NFI has a tendency to underestimate fit in small samples, Bentler (1990) revised the NFI to take the sample size into account and developed the CFI such that there is no systematic bias when sample size is small. The index is calculated by computing the noncentrality parameter estimate for the model being evaluated and that of the independence model as the baseline model. The index ranges from zero to 1.00. Byrne (2001) summarises that originally, a value greater than 0.90 indicates an acceptable fit to the data (Bentler, 1992). However, Hu and Bentler (1999) propose a revised cut-off value close to 0.95.

### Tucker-Lewis Index (TLI) or NNFI

TLI is also known as the Bentler-Bonett non-normed fit index (NNFI). The index ranges from zero to 1.00 but it is not limited to that range. A cut-off value close to 0.95 indicates a good fit and close to 1 to be a very good fit (Hu and Bentler 1999).

### Root Mean Square Error Approximation (RMSEA)

RMSEA has only recently been recognised as one of the most informative criteria in covariance structure modelling (Byrne, 2001). RMSEA provides an error of approximation that increases as the covariance matrix implied by the model being evaluated and the population covariance matrices progressively differ from one another. RMSEA is expressed per degree of freedom. It is thus sensitive to the number of estimated parameters in the model. The more complex the model is, the higher is the RMSEA. Brown and Cudeck (1993, p. 144) recommend that “a value of

---

<sup>3</sup> The independence model is one in which all correlations among the variables are zero. All relational paths are fixed to zero and only variances are estimated (Hoyle, 1995). It is the most restricted model and most typically used as a baseline model. It is sometimes called a null model (Hu & Bentler, 1995).

## Appendix D

about 0.05 or less would indicate a close fit of the model in relation to the degrees of freedom. This figure is based on subjective judgement...It is more reasonable than the requirement of exact fit with RMSEA = 0.0...A value of about 0.8 or less would indicate a reasonable error of approximation and would not want to employ a model greater than 0.1". Moreover, Hu and Bentler (1999) suggest a value of 0.06 to be indicative of a relatively good fit between the hypothesised model and the observed data.

Since subjective judgement is required, MacCullum et al. (1996) recommend the reporting of RMSEA at 90% confidence interval. A narrow confidence interval of the RMSEA value would suggest good precision of model fit in the population. On the contrary, with a wide confidence interval, a researcher may conclude that the estimated discrepancy value is quite imprecise and that degree of model fit in the population may not be determined. Further, MacCullum et al. (1996) assume the cut off value of 0.05 and hence the null hypothesis of close fit is  $H_0$ : estimated RMSEA  $\leq$  0.05. They suggest that if the confidence interval straddles 0.05, say with its bounds of 0.034 and 0.081, the null hypothesis of close fit is plausible. They emphasise that "if the null hypothesis is not rejected, we conclude that the data are not sufficiently inconsistent with the null hypothesis for us to reject that hypothesis. This outcome does not imply clear support for the model but rather the absence of strong evidence against it" (MacCullum et al., 1996, p.135. In addition to the confidence interval, AMOS tests for the closeness of fit by reporting a  $p$  value (called  $P_{close}$  in AMOS) for testing the null hypothesis that the population RMSEA is no greater

## Appendix D

than .05. Joreskog and Sorbom (1996) suggest that the  $p^4$  value for a test of close fit should be  $> 0.50$ .

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<sup>4</sup> This  $p$  value ( $P_{\text{close}}$ ) is different from the  $p$  value associated with the  $\chi^2$  test. The latter  $p$  value gives a test of exact fit for testing the hypothesis that the population RMSEA = 0.

D.2 A Detailed Review of the Literature Concerning Investigation of the  $T_{SB}$  statistic

$T_{SB}$  is available in EQS and Mplus but not AMOS. It has been used by other researchers, and also been tested for its biases under severe non-normality condition (Chou, Bentler & Satorra, 1991) and small sample size as well as non-normality conditions (Bentler & Yuan, 1999). In Chou, Bentler and Satorra's (1991) study, the model studied was a simple one with 13 parameters, 6 factor loadings, 6 measurement error variances and 1 factor covariance. With a sample size of 200, they concluded that the  $T_{ML}$  statistics were quite robust under the six conditions<sup>5</sup> of non-normality considered in the study of the simple model. With larger models, however,  $T_{ML}$  had been found to be not as robust (Harlow et al., 1986). Moreover, Chou et al. (1991) found that there were no significant differences in the frequencies of rejecting the null hypothesis (called the rejection rates) between  $T_{ML}$  and  $T_{SB}$  statistics under all the conditions of non-normality. However, when the factor loadings of the model were fixed at their true values, the number of parameter to be estimated was then reduced from 13 to 7 and hence, the degree of freedom was increased from 8 to 14. They found that the rejection rates using  $T_{SB}$  statistics were consistently low (robust) under all the non-normality conditions investigated but the  $T_{ML}$  statistics were only equally robust in three non-normal conditions<sup>6</sup> including condition 6 of unequal skewness and unequal kurtosis. In this sense, only when the model becomes much simpler, do the  $T_{SB}$  statistics seem to be more robust than the  $T_{ML}$  statistics under severe non-normality condition at a sample size of 200. Otherwise, the  $T_{ML}$  and  $T_{SB}$  statistics are equally robust in using the simple model of 13 parameters.

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<sup>5</sup> The six non-normal conditions in the study are (1) symmetric with equal negative kurtosis, (2) symmetric with equal positive kurtosis, (3) symmetric with unequal kurtosis, (4) unequal negative skewness, zero kurtosis, (5) unequal positive skewness, equal kurtosis and (6) unequal skewness, unequal kurtosis.

## Appendix D

Furthermore, Bentler and Yuan (1999) tested the conditions of small sample size<sup>7</sup>, normality and non-normality<sup>8</sup> at the same time in a confirmatory factor model (with 33 parameters and  $df = 87$ , which was more complex than Chou et al., 1991 model). They summarised that  $T_{SB}$  statistics were found in their studies to break down with smallest sample sizes ( $N = 60, 70$  and  $80$ ) under all conditions. At the smaller sample sizes ( $N = 90, 100, 110$  and  $120$ ), the  $T_{SB}$  statistics outperformed  $T_{ML}$  but they still over-rejected true models by 2 to 4 times, producing type I errors<sup>9</sup>. Therefore, in Bentler and Yuan's (1999) experiment, the  $T_{SB}$  statistics created type I errors while its object was to minimise type II errors.

In the present study, the non-normal condition of the strong ties data was unequal negative skewness and unequal kurtosis, which did not fall into any of the 6 conditions being studied by Chou et al. (1991). However, the problem with the weak ties data was unequal skewness and unequal kurtosis, which was condition 6 in their study. We may possibly draw a parallel conclusion from Chou et al's (1991) study that the  $T_{ML}$  statistic was robust for the weak ties data especially when the non-normality was slight and the model was also simple. Nevertheless, recalculating both the strong ties and the weak ties by the  $T_{SB}$  statistics was not the best solution to the issues of sample size and non-normality given the findings of Bentler and Yuan (1999).

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<sup>6</sup> The three non-normal conditions are (1), (4) and (6).

<sup>7</sup> The sample sizes in Bentler and Yuan's (1999) study were 60, 70, 80, 90, 100, 110 and 120.

<sup>8</sup> Four distribution conditions are tested. (1) data is with a multivariate normal distribution, (2) data is elliptically symmetric with no skew but moderate kurtosis, (3) data is asymmetrically distributed with moderate skew and substantial kurtosis but the common factor still follows a multivariate normal distribution before recaling and (4) data is more than moderate skew and extremely heavy kurtosis. Both the common factors and unique factors are asymmetric in distribution (Bentler and Yuan 1999).

<sup>9</sup> A type I error occurs when  $H_0$  is rejected, even though it is true. The probability of a type I error is the  $\alpha$  level of the test (Agresti and Finlay 1997, p.175-176). In the present context,  $H_0: \Sigma = \Sigma(\theta)$  is rejected at  $p < = 0.05$  even though the model fits the population.

## ENTREPRENEURS AND CORPORATE EXECUTIVES' INTERPERSONAL TRUST WITH THEIR NETWORK CONTACTS

Ms Yuet-Ha Mo, Department of Experimental Psychology, University of Oxford,  
South Parks Road, Oxford, OX1 3UD, United Kingdom

Dear Participant,

Thank you very much for agreeing to take part in this study. It examines bases of trust and trust values within personal networks among British entrepreneurs and corporate executives in Britain. The study includes small and medium business owners, new start-up business owners, and corporate executives (who have important external business relationships either with customers, suppliers, creditors, etc. and do *not* have an equity stake of 5% or more). The research also covers Chinese counterparts in Hong Kong and Shanghai to explore some aspects of trust psychology.

I hope that you will enjoy the following benefits by completing the questionnaire:

Feedback from the participants in the pilot studies has been encouraging. They found it thought-provoking or interesting in reviewing their efficacy of networking, and the reasons for their trust of certain people.

In return for giving your valuable time, you will receive exclusive access to an executive summary of the findings. Please include your email address. I will contact you between the end of 2001 and early 2002.

For those of you who market or would like to market your company's products or services in Britain, please complete your company name and other details in the questionnaire. Such details will be shown in the researcher's web site [www.networking.theseed.net](http://www.networking.theseed.net) under 'Voluntary List of Participating Companies'. The purpose is to provide a means of networking to promote trade within Britain.

One of the major outcomes of the study will be to gain an insight into trust values between British businessmen/women. Most of you may not have business interests in China. However, your contribution to the study will be very valuable to the business community and to the future business development in this country by providing information about the attitudes and characteristics of people like yourself who have achieved success in business.

The questionnaire will take 15 minutes to complete. Please follow the instructions below and respond as frankly as you can.

Your responses will be anonymous. All research data is kept confidential by the researcher. Thank you again for your time and contribution to this research.

Ms Yuet-Ha Mo  
Researcher

P.S. More details about the research and the researcher's background can be found in the web site [www.networking.theseed.net](http://www.networking.theseed.net) You can complete this questionnaire on the Internet <http://infopoll.net/Live/surveys/s8303.htm> if you find it more convenient.

---

## Characteristics of the Participant

Today's date \_\_\_\_\_

1. Where do you currently live? 1 = Britain 2 = Hong Kong 3 = Shanghai  
 (Please circle the answer) 4 = Beijing  
 5 = Other, specify the town and the country  
 \_\_\_\_\_
2. Location of your office 1 = London, please specify your postcode  
 \_\_\_\_\_  
 2 = Outside London within Britain, please specify your postcode \_\_\_\_\_  
 3 = Hong Kong  
 4 = Shanghai  
 5 = Beijing  
 6 = Other, please specify the country and postcode  
 \_\_\_\_\_
3. Gender 1 = Male 2 = Female
4. Age \_\_\_\_\_ (This information is required for analysis in the questionnaires)
5. Marital status 1 = married 2 = separated or divorced  
 3 = single
6. Education attained 1 = primary school 3 = Bachelor degree  
 2 = secondary school 4 = Post graduate qualification
7. Where were you born? 1 = Britain 2 = Hong Kong 3 = Shanghai  
 4 = Beijing  
 5 = Other parts of China, please specify the town and the province \_\_\_\_\_  
 6 = Others, please specify the country \_\_\_\_\_
8. What is your main cultural identity?  
 (The categories have been classified for the purpose and the scope of the present research only)  
 1 = British 3 = Hong Kong Chinese 7 = Overseas Chinese  
 2 = Other Caucasian, 4 = Shanghainese 8 = Other Asian, please specify  
 \_\_\_\_\_ please specify 5 = Beijingers 9 = Others, please specify \_\_\_\_\_  
 6 = Chinese from other parts of China
9. What is your native tongue? (That is the language with which you were brought up at home)  
 1 = English 2 = Cantonese 3 = Shanghainese 4 = Mandarin  
 5 = Other Chinese dialects, please specify \_\_\_\_\_  
 6 = Others, please specify \_\_\_\_\_

## Appendix E

10. With what religion do you broadly identify?

- |                  |              |                                 |
|------------------|--------------|---------------------------------|
| 1 = Christianity | 3 = Buddhism | 5 = Islam                       |
| 2 = Judaism      | 4 = Hinduism | 6 = Other, please specify _____ |
|                  |              | 7 = none                        |

11. Please provide us with your name and email address. (If you do not have an email address, please enter your fax number with a country code)

Name: \_\_\_\_\_

Email: \_\_\_\_\_

12. Is the company publicly listed?    Yes or No

13.. Nature of business

- |                              |                            |                                  |
|------------------------------|----------------------------|----------------------------------|
| 1 = Consumer manufacturing   | 5 = Trading                | 9 = Others, please specify _____ |
| 2 = Industrial manufacturing | 6 = Financial services     |                                  |
| 3 = Retail                   | 7 = Other services         |                                  |
| 4 = Wholesale                | 8 = Information technology |                                  |

14. Your new business is *mainly* generated from ... (please circle one choice)

<p>1 = my network contacts' referrals</p> <p>2 = word of mouth</p> <p>3 = direct mail and direct call</p> <p>4 = business events e.g. seminars, conferences and exhibitions</p> <p>5 = advertising in trade magazines or newspaper</p> <p>6 = other, please specify _____</p>	
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15. Number of years you have been building your current network of contacts \_\_\_ years

16. For the purpose of the research, which category do you see yourself in?  
*Please ✓ either category 1 or 2 and then proceed to answer the questions in the category you have chosen.*

\_\_\_ Category 1 = business owners who own an equity stake of at least 5% or more of a business

\_\_\_ Category 2 = Senior Executives who have important external business relationships either with customers, suppliers, creditors and so forth but who does *not* have an equity stake of 5% or more.

**If you are in category 2, please go to question 25.**

**Category I/ Business Owners** (own an equity stake of at least 5% or more of a business)

17. How substantial is your equity stake in the business (including the equity holding of any trust fund that you control)? (This information is for the researcher to take account of a possible differentiation of core network values due to differences in the exposure to financial risks)

- |                           |                   |
|---------------------------|-------------------|
| 1 = between 5 % and 24.9% | 3 = 50 % to 75 %  |
| 2 = 25 % to 49.9%         | 4 = more than 75% |

## Appendix E

18. What would be your financial position if your present business failed with debts?

1 = I would be left with no other substantial assets

2 = It would make a material difference in my standard of living

3 = It would make no material difference

19. Number of years of owning and managing your business(es) is \_\_\_\_\_ years

20. How many years ago was your present business founded? \_\_\_\_\_ years ago

21. Did you found the present business? Yes or No

22. Are you the *key decision-maker* in the business? Yes or No

23. Number of employees including contract (or temporary) staff in 1999  
\_\_\_\_\_

24. Sales revenues of your business in 1999 \_\_\_\_\_ (pounds for Britain) (This information is required to categorise businesses into small and medium size)

**Category 2/ Senior Executives (If you are in Category I, please complete questions 17 to 24) (who have important external business relationships either with customers, suppliers, creditors and so forth but who do *not* have an equity stake of 5% or more)**

25. Number of years that you have been a senior executive \_\_\_\_\_ years

26. Number of staff under your present management \_\_\_\_\_

27. Number of employees in your entire corporation (world-wide if applicable)  
\_\_\_\_\_

28. Do you have an equity stake in the corporation? Yes or No

29. Which management area are you currently in?

1 = Production

2 = Marketing and Sales

3 = Finance

4 = Purchasing

5 = Overall management at a regional level

6 = Overall management at a divisional level

7 = Overall management at the company level (world-wide if applicable)

8 = Others, please specify \_\_\_\_\_

## Appendix E

Please answer the following questions **IN THE CONTEXT OF MEDIUM OR BIG BUSINESS TRANSACTIONS** by circling the appropriate number on the scale. These questions are related to the level of your trust with others *in business contexts*.

Recap the definitions:

“Strong ties” – people with whom you have a strong relationship in business contexts, such as business co-owners, key customers, key suppliers, strategic alliance partners, friends or relatives.

“Weak ties” – people you know directly but with whom the relationships are more distant, i.e. where business encounters are more peripheral in nature.

An intermediate layer of ties between strong ties and weak ties may or may not exist in your business. However, the questionnaire does not address this type of tie.

How much do <i>I expect</i> the following from my ties?		No Expectation			Moderate			Extremely High Expectation		
		1	2	3	4	5	6	7	8	9
01	Reliability from my strong ties	1	2	3	4	5	6	7	8	9
02	Reliability from my weak ties	1	2	3	4	5	6	7	8	9
03	Honesty from my strong ties	1	2	3	4	5	6	7	8	9
04	Honesty from my weak ties	1	2	3	4	5	6	7	8	9
05	Discretion from my strong ties in keeping sensitive matters confidential (e.g. about competitors, company or personal matters, etc)	1	2	3	4	5	6	7	8	9
06	Discretion from my weak ties in keeping sensitive matters confidential	1	2	3	4	5	6	7	8	9
07	Mutual benefits from my strong ties	1	2	3	4	5	6	7	8	9
08	Mutual benefits from my weak ties	1	2	3	4	5	6	7	8	9
09	Reciprocation of favours from my strong ties (e.g. information, contacts, referrals, new business, advice, etc.)	1	2	3	4	5	6	7	8	9
10	Reciprocation of favours from my weak ties	1	2	3	4	5	6	7	8	9
How much do my ties expect the following <i>from me</i> ?										
11	My strong ties expect reliability	1	2	3	4	5	6	7	8	9
12	My weak ties expect reliability	1	2	3	4	5	6	7	8	9
13	My strong ties expect honesty	1	2	3	4	5	6	7	8	9
14	My weak ties expect honesty	1	2	3	4	5	6	7	8	9

## Appendix E

		No Expectation			Moderate 			Extremely High Expectation		
15	My strong ties expect discretion in keeping sensitive matters confidential	1	2	3	4	5	6	7	8 9	
16	My weak ties expect discretion in keeping sensitive matters confidential	1	2	3	4	5	6	7	8 9	
17	My strong ties expect mutual benefits	1	2	3	4	5	6	7	8 9	
18	My weak ties expect mutual benefits	1	2	3	4	5	6	7	8 9	
19	My strong ties expect reciprocation of favours	1	2	3	4	5	6	7	8 9	
20	My weak ties expect reciprocation of favours	1	2	3	4	5	6	7	8 9	
		None At all							Extremely High	
21	I think that my strong ties trust me	1	2	3	4	5	6	7	8 9	
22	I think that my weak ties trust me	1	2	3	4	5	6	7	8 9	
23	My level of trust in doing business with my strong ties is	1	2	3	4	5	6	7	8 9	
24	My level of trust in doing business with my weak ties is	1	2	3	4	5	6	7	8 9	
25	Given the size of your business and the industry you are in, is it an industry custom to use contracts for medium or big business transactions?	Yes, No or Don't know (Please circle)								
	When I do business with the following people, the type of documentation required is generally	1	2	3	4	5	6	7	8 9	
	( Please circle one type of documentation for each category of tie) :	1	2	3	4	5	6	7	8 9	
		1	2	3	4	5	6	7	8 9	
26	My strong ties	1	2	3	4	5	6	7	8 9	
27	My weak ties	1	2	3	4	5	6	7	8 9	

## Appendix E

Between myself and my <i>strong</i> ties, in order for me to feel secure about our business transactions, how important is it to me that:		Not At all								Extremely Important
28	there is a good interpersonal relationship	1	2	3	4	5	6	7	8	9
29	I believe that they are open with me	1	2	3	4	5	6	7	8	9
30	I believe that they are fair with me	1	2	3	4	5	6	7	8	9
31	I believe that they are honest with me	1	2	3	4	5	6	7	8	9
32	I believe that they are competent	1	2	3	4	5	6	7	8	9
33	there has been a history of consistently reliable transactions	1	2	3	4	5	6	7	8	9
34	there are reciprocal obligations	1	2	3	4	5	6	7	8	9
35	there are sufficient mutual self-interests between both parties	1	2	3	4	5	6	7	8	9
36	there are contracts with major terms	1	2	3	4	5	6	7	8	9
37	defined they have established a good reputation in their fields	1	2	3	4	5	6	7	8	9
<p>Between myself and my <i>weak</i> ties, in order for me to feel secure about our business transactions, how important is it to me that:</p>										
38	There is a good interpersonal relationship	1	2	3	4	5	6	7	8	9
39	I believe that they are open with me	1	2	3	4	5	6	7	8	9
40	I believe that they are fair with me	1	2	3	4	5	6	7	8	9
41	I believe that they are honest with me	1	2	3	4	5	6	7	8	9
42	I believe that they are competent	1	2	3	4	5	6	7	8	9
43	There has been a history of consistently reliable transactions	1	2	3	4	5	6	7	8	9
44	There are reciprocal obligations	1	2	3	4	5	6	7	8	9
45	There are sufficient mutual self-interests between both parties	1	2	3	4	5	6	7	8	9
46	There are contracts with major terms	1	2	3	4	5	6	7	8	9
47	defined They have established a good reputation in their fields	1	2	3	4	5	6	7	8	9
How likely is it that I might be cheated dishonestly by:		Not At all								Extremely Likely
48	My strong ties	1	2	3	4	5	6	7	8	9
49	My weak ties	1	2	3	4	5	6	7	8	9

**ENTREPRENEURS AND CORPORATE EXECUTIVES' INTERPERSONAL TRUST WITH THEIR NETWORK CONTACTS**

Ms Yuet-Ha Mo, Department of Experimental Psychology, University of Oxford,  
South Parks Road, Oxford, OX1 3UD, United Kingdom

Dear Participant,

Thank you very much for agreeing to take part in this study. It examines bases of trust and trust values within personal networks among British entrepreneurs and corporate executives in Britain. The study includes small and medium business owners, new start-up business owners, and corporate executives (who have important external business relationships either with customers, suppliers, creditors, etc. and do *not* have an equity stake of 5% or more). The research also covers Chinese counterparts in Hong Kong and Shanghai to explore some aspects of trust psychology.

I hope that you will enjoy the following benefits by completing the questionnaire:

Feedback from the participants in the pilot studies has been encouraging. They found it thought-provoking or interesting in reviewing their efficacy of networking, and the reasons for their trust of certain people.

In return for giving your valuable time, you will receive exclusive access to an executive summary of the findings. Please include your email address. I will contact you between the end of 2001 and early 2002.

For those of you who market or would like to market your company's products or services in Britain, please complete your company name and other details in the questionnaire. Such details will be shown in the researcher's web site [www.networking.theseed.net](http://www.networking.theseed.net) under 'Voluntary List of Participating Companies'. The purpose is to provide a means of networking to promote trade within Britain.

One of the major outcomes of the study will be to gain an insight into trust values between British businessmen/women. Most of you may not have business interests in China. However, your contribution to the study will be very valuable to the business community and to the future business development in this country by providing information about the attitudes and characteristics of people like yourself who have achieved success in business.

The questionnaire will take 15 minutes to complete. Please follow the instructions below and respond as frankly as you can.

Your responses will be anonymous. All research data is kept confidential by the researcher. Thank you again for your time and contribution to this research.

Ms Yuet-Ha Mo  
Researcher

P.S. More details about the research and the researcher's background can be found in the web site [www.networking.theseed.net](http://www.networking.theseed.net) You can complete this questionnaire on the Internet <http://infopoll.net/Live/surveys/s8303.htm> if you find it more convenient.

---

## Appendix F

### Characteristics of the Participant

Today's date \_\_\_\_\_

1. Where do you currently live? 1 = Britain 2 = Hong Kong 3 = Shanghai  
4 = Beijing  
(Please circle the answer) 5 = Other, specify the town and the country  
\_\_\_\_\_
2. Location of your office 1 = London, please specify your postcode  
\_\_\_\_\_  
2 = Outside London within Britain, please specify  
your postcode \_\_\_\_\_  
3 = Hong Kong  
4 = Shanghai  
5 = Beijing  
6 = Other, please specify the country and postcode  
\_\_\_\_\_
3. Gender 1 = Male 2 = Female
4. Age \_\_\_\_\_ (This information is required for analysis in the questionnaires)
5. Marital status 1 = married 2 = separated or divorced  
3 = single
6. Education attained 1 = primary school 3 = Bachelor degree  
2 = secondary school 4 = Post graduate qualification
7. Where were you born? 1 = Britain 2 = Hong Kong 3 = Shanghai  
4 = Beijing  
5 = Other parts of China, please specify the town and the  
province \_\_\_\_\_  
6 = Others, please specify the country \_\_\_\_\_
8. What is your main cultural identity?  
(The categories have been classified for the purpose and the scope of the present  
research only)  
  
1 = British 3 = Hong Kong Chinese 7 = Overseas Chinese  
2 = Other Caucasian, 4 = Shanghainese 8 = Other Asian, please specify  
\_\_\_\_\_ please specify 5 = Beijingers 9 = Others, please specify \_\_\_\_\_  
6 = Chinese from other parts of China
9. What is your native tongue? (That is the language with which you were brought up at  
home)  
  
1 = English 2 = Cantonese 3 = Shanghainese 4 = Mandarin  
5 = Other Chinese dialects, please specify \_\_\_\_\_  
6 = Others, please specify \_\_\_\_\_

## Appendix F

10. With what religion do you broadly identify?

- |                  |              |                                 |
|------------------|--------------|---------------------------------|
| 1 = Christianity | 3 = Buddhism | 5 = Islam                       |
| 2 = Judaism      | 4 = Hinduism | 6 = Other, please specify _____ |
|                  |              | 7 = none                        |

11. Please provide us with your name and email address. (If you do not have an email address, please enter your fax number with a country code)

Name: \_\_\_\_\_

Email: \_\_\_\_\_

12. Is the company publicly listed?    Yes or No

13.. Nature of business

- |                              |                            |                                  |
|------------------------------|----------------------------|----------------------------------|
| 1 = Consumer manufacturing   | 5 = Trading                | 9 = Others, please specify _____ |
| 2 = Industrial manufacturing | 6 = Financial services     |                                  |
| 3 = Retail                   | 7 = Other services         |                                  |
| 4 = Wholesale                | 8 = Information technology |                                  |

14. Your new business is *mainly* generated from ... (please circle one choice)

1 = my network contacts' referrals	2 = word of mouth
3 = direct mail and direct call	4 = business events e.g. seminars, conferences and exhibitions
5 = advertising in trade magazines or newspaper	6 = other, please specify _____

15. Number of years you have been building your current network of contacts \_\_\_ years

16. For the purpose of the research, which category do you see yourself in?  
Please  $\checkmark$  either category 1 or 2 and then proceed to answer the questions in the category you have chosen.

\_\_\_ Category 1 = business owners who own an equity stake of at least 5% or more of a business

\_\_\_ Category 2 = Senior Executives who have important external business relationships either with customers, suppliers, creditors and so forth but who does *not* have an equity stake of 5% or more.

**If you are in category 2, please go to question 25.**

**Category I/ Business Owners**\_(own an equity stake of at least 5% or more of a business)

17. How substantial is your equity stake in the business (including the equity holding of any trust fund that you control)? (This information is for the researcher to take account of a possible differentiation of core network values due to differences in the exposure to financial risks)

- |                           |                   |
|---------------------------|-------------------|
| 1 = between 5 % and 24.9% | 3 = 50 % to 75 %  |
| 2 = 25 % to 49.9%         | 4 = more than 75% |

## Appendix F

18. What would be your financial position if your present business failed with debts?

1 = I would be left with no other substantial assets

2 = It would make a material difference in my standard of living

3 = It would make no material difference

19. Number of years of owning and managing your business(es) is \_\_\_\_\_ years

20. How many years ago was your present business founded? \_\_\_\_\_ years ago

21. Did you found the present business? Yes or No

22. Are you the *key decision-maker* in the business? Yes or No

23. Number of employees including contract (or temporary) staff in 1999  
\_\_\_\_\_

24. Sales revenues of your business in 1999 \_\_\_\_\_ (pounds for Britain) (This information is required to categorise businesses into small and medium size)

**Category 2/ Senior Executives (If you are in Category I, please complete questions 17 to 24) (who have important external business relationships either with customers, suppliers, creditors and so forth but who do *not* have an equity stake of 5% or more)**

25. Number of years that you have been a senior executive \_\_\_\_\_ years

26. Number of staff under your present management \_\_\_\_\_

27. Number of employees in your entire corporation (world-wide if applicable)  
\_\_\_\_\_

28. Do you have an equity stake in the corporation? Yes or No

29. Which management area are you currently in?

1 = Production

2 = Marketing and Sales

3 = Finance

4 = Purchasing

5 = Overall management at a regional level

6 = Overall management at a divisional level

7 = Overall management at the company level (world-wide if applicable)

8 = Others, please specify \_\_\_\_\_

Appendix F

The following questions explore various bases of trust with your strong ties in business contexts. One may have as many as ten strong ties to form a core network. Please think of *the THREE STRONGEST TIES* in business contexts.

	Person A column	Person B column	Person C column
Please insert their initials as a memory aide	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
(All of the questions here below refer to these individuals)			
1. What kind of association do you have with each person? (Please insert a number in each box)	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	1 = customer 2 = supplier 3 = co-owner 4 = strategic alliance 5 = investor		6 = senior executive within current company 7 = Government official 8 = none of the above, someone who is helpful to my business 9 = other, please specify in the box
2. What kind of relationship do you have with each person?	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	1 = friendship only 2 = business relation only 3 = relative only		4 = business relation and friendship 5 = relative with business relation
3. How many years have you known each person? (Please insert a number in each box)	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
4. How much have you worked with each person?	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	not at all		a great deal
	1 2 3 4 5 6 7 8 9		
How well would you say you know			
5a. each person?	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
5b. each person's close family members?	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	not at all		extremely well
	1 2 3 4 5 6 7 8 9		
6. How often have you been let down by each person? (e.g. he/she fails to keep a promise or exaggerate what can be delivered)	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	not at all		very often
	1 2 3 4 5 6 7 8 9		
7. How often do you interact with each person outside office hours? (e.g. meals, drinks, or sports, etc.)	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	not at all		very often
	1 2 3 4 5 6 7 8 9		
8. To what extent do you and each person both depend on this relationship in terms of utilising each other's resources (e.g. information, contacts, referrals, new business, advice, channels to obtain financing, etc.)?	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	not at all		the greatest extent
	1 2 3 4 5 6 7 8 9		
9. What is your level of trust in each person ?	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	not at all		extremely high
	1 2 3 4 5 6 7 8 9		

Appendix F

10. How important are the following statements in building trust with ALL *your strong ties* that form your core network?

	Not at all			Moderate			Extremely important		
	1	2	3	4	5	6	7	8	9
The number of years you have known them	1	2	3	4	5	6	7	8	9
How much you have worked with them	1	2	3	4	5	6	7	8	9
How well you know them	1	2	3	4	5	6	7	8	9
How well you know their close family members	1	2	3	4	5	6	7	8	9
How often you have been let down by them	1	2	3	4	5	6	7	8	9
How often you interact with them outside office hours	1	2	3	4	5	6	7	8	9
The extent to which you and your strong ties both depend on the relationship in terms of utilising each other's resources (e.g. information, contacts, referrals, etc)	1	2	3	4	5	6	7	8	9

More about your THREE strongest ties

	Person A column	Person B column	Person C column
--	-----------------	-----------------	-----------------

11. What is the social class you think each person is coming from? (It may be achieved by him/her or inherited from parents)

	Person A column	Person B column	Person C column
--	-----------------	-----------------	-----------------

1 = higher than myself      2 = same as myself      3 = lower than yourself

12. Please specify the main cultural identity of each person?

	Person A column	Person B column	Person C column
--	-----------------	-----------------	-----------------

1 = British      2 = Other Caucasian      3 = Hong Kong Chinese      4 = Shanghainese      5 = Beijingers      6 = Chinese from other parts of China      7 = Overseas Chinese      8 = Other Asian      9 = Others, please specify\_\_

13. Do you share the following characteristics with each person?  
Please put  for yes,  for no or (?) for don't know in each box.

similar age (+ or - 4 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar family background	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar geographical background (e.g. hometown)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
common native tongue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar cultural identity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kinship (relatives)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
same gender	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar religion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar hardship in the past e.g. in army or other kinds of hardship related to life or business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have gone through a period in a similar social/ cultural environment (people you have spent time with for a period in work place, college, etc., and not necessarily of similar age)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
similar hobbies or interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix F

similar professionalism (i.e. disciplined approach to business)			
similar ideas and visions			
similar business principles			
some similar contacts who are mutually known			

14. How important are these following characteristics in building trust with *ALL your strong ties* that form your core network?

	Not at all			Moderate			Extremely important		
	1	2	3	4	5	6	7	8	9
similar age (+ or - 4 years)	1	2	3	4	5	6	7	8	9
similar family background	1	2	3	4	5	6	7	8	9
similar geographical background	1	2	3	4	5	6	7	8	9
common native tongue	1	2	3	4	5	6	7	8	9
similar cultural identity	1	2	3	4	5	6	7	8	9
kinship (relatives)	1	2	3	4	5	6	7	8	9
same gender	1	2	3	4	5	6	7	8	9
similar religion	1	2	3	4	5	6	7	8	9
similar social class	1	2	3	4	5	6	7	8	9
similar education	1	2	3	4	5	6	7	8	9
similar hardship in the past	1	2	3	4	5	6	7	8	9
have gone through a period of similar social cultural background	1	2	3	4	5	6	7	8	9
similar hobbies or interests	1	2	3	4	5	6	7	8	9
similar professionalism	1	2	3	4	5	6	7	8	9
similar ideas and visions	1	2	3	4	5	6	7	8	9
similar business principles	1	2	3	4	5	6	7	8	9
some similar contacts who are mutually known	1	2	3	4	5	6	7	8	9

15. How important are the following attributes in helping to hold your core network of *ALL* strong ties together?

Complementary skills and abilities	1	2	3	4	5	6	7	8	9
Mutual interest in increasing business opportunities	1	2	3	4	5	6	7	8	9
Mutual interest in increasing prosperity	1	2	3	4	5	6	7	8	9
Enlightened self-interest (where one does something for your strong ties in order to benefit personally as well)	1	2	3	4	5	6	7	8	9
Exchange of information and ideas	1	2	3	4	5	6	7	8	9
Mutual use of each other's network contacts	1	2	3	4	5	6	7	8	9
Mutual obligations and favours	1	2	3	4	5	6	7	8	9
Sharing similar interests or hobbies	1	2	3	4	5	6	7	8	9
Sharing similar values	1	2	3	4	5	6	7	8	9
Friendship	1	2	3	4	5	6	7	8	9
Sharing the same cultural values (whether it is national culture or generation related culture)	1	2	3	4	5	6	7	8	9

## ENTREPRENEURS AND CORPORATE EXECUTIVES' INTERPERSONAL TRUST WITH THEIR NETWORK CONTACTS

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Ms Yuet-Ha Mo  
Researcher

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---

**Characteristics of the Participant**

Today's date \_\_\_\_\_

1. Where do you currently live? 1 = Britain 2 = Hong Kong 3 = Shanghai  
 (Please circle the answer) 4 = Beijing  
 5 = Other, specify the town and the country  
 \_\_\_\_\_
2. Location of your office 1 = London, please specify your postcode  
 \_\_\_\_\_  
 2 = Outside London within Britain, please specify  
 your postcode \_\_\_\_\_  
 3 = Hong Kong  
 4 = Shanghai  
 5 = Beijing  
 6 = Other, please specify the country and postcode  
 \_\_\_\_\_
3. Gender 1 = Male 2 = Female
4. Age \_\_\_\_\_ (This information is required for analysis in the questionnaires)
5. Marital status 1 = married 2 = separated or divorced  
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6. Education attained 1 = primary school 3 = Bachelor degree  
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7. Where were you born? 1 = Britain 2 = Hong Kong 3 = Shanghai  
 4 = Beijing  
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 province \_\_\_\_\_  
 6 = Others, please specify the country \_\_\_\_\_
8. What is your main cultural identity?  
 (The categories have been classified for the purpose and the scope of the present  
 research only)  
 1 = British 3 = Hong Kong Chinese 7 = Overseas Chinese  
 2 = Other Caucasian, 4 = Shanghainese 8 = Other Asian, please specify  
 \_\_\_\_\_ please specify 5 = Beijingers 9 = Others, please specify \_\_\_\_\_  
 6 = Chinese from other parts of China
9. What is your native tongue? (That is the language with which you were brought up at  
 home)  
 1 = English 2 = Cantonese 3 = Shanghainese 4 = Mandarin  
 5 = Other Chinese dialects, please specify \_\_\_\_\_  
 6 = Others, please specify \_\_\_\_\_

## Appendix G

10. With what religion do you broadly identify?

- |                  |              |                                 |
|------------------|--------------|---------------------------------|
| 1 = Christianity | 3 = Buddhism | 5 = Islam                       |
| 2 = Judaism      | 4 = Hinduism | 6 = Other, please specify _____ |
|                  |              | 7 = none                        |

11. Please provide us with your name and email address. (If you do not have an email address, please enter your fax number with a country code)

Name: \_\_\_\_\_

Email: \_\_\_\_\_

12. Is the company publicly listed? Yes or No

13. Nature of business

- |                              |                            |                                  |
|------------------------------|----------------------------|----------------------------------|
| 1 = Consumer manufacturing   | 5 = Trading                | 9 = Others, please specify _____ |
| 2 = Industrial manufacturing | 6 = Financial services     |                                  |
| 3 = Retail                   | 7 = Other services         |                                  |
| 4 = Wholesale                | 8 = Information technology |                                  |

14. Your new business is *mainly* generated from ... (please circle one choice)

1 = my network contacts' referrals
2 = word of mouth
3 = direct mail and direct call
4 = business events e.g. seminars, conferences and exhibitions
5 = advertising in trade magazines or newspaper
6 = other, please specify _____

15. Number of years you have been building your current network of contacts \_\_\_\_\_ years

16. For the purpose of the research, which category do you see yourself in?  
*Please ✓ either category 1 or 2 and then proceed to answer the questions in the category you have chosen.*

\_\_\_\_ Category 1 = business owners who own an equity stake of at least 5% or more of a business

\_\_\_\_ Category 2 = Senior Executives who have important external business relationships either with customers, suppliers, creditors and so forth but who does *not* have an equity stake of 5% or more.

**If you are in category 2, please go to question 25.**

**Category I/ Business Owners** (own an equity stake of at least 5% or more of a business)

17. How substantial is your equity stake in the business (including the equity holding of any trust fund that you control)? (This information is for the researcher to take account of a possible differentiation of core network values due to differences in the exposure to financial risks)

1 = between 5 % and 24.9%

3 = 50 % to 75 %

## Appendix G

2 = 25 % to 49.9%

4 = more than 75%

18. What would be your financial position if your present business failed with debts?

1 = I would be left with no other substantial assets

2 = It would make a material difference in my standard of living

3 = It would make no material difference

19. Number of years of owning and managing your business(es) is \_\_\_\_\_ years

20. How many years ago was your present business founded? \_\_\_\_\_ years ago

21. Did you found the present business? Yes or No

22. Are you the *key decision-maker* in the business? Yes or No

23. Number of employees including contract (or temporary) staff in 1999  
\_\_\_\_\_

24. Sales revenues of your business in 1999 \_\_\_\_\_ (pounds for Britain) (This information is required to categorise businesses into small and medium size)

### **Category 2/ Senior Executives (If you are in Category I, please complete questions 17 to 24)**

(who have important external business relationships either with customers, suppliers, creditors and so forth but who do *not* have an equity stake of 5% or more)

25. Number of years that you have been a senior executive \_\_\_\_\_ years

26. Number of staff under your present management \_\_\_\_\_

27. Number of employees in your entire corporation (world-wide if applicable)  
\_\_\_\_\_

28. Do you have an equity stake in the corporation? Yes or No

29. Which management area are you currently in?

1 = Production

2 = Marketing and Sales

3 = Finance

4 = Purchasing

5 = Overall management at a regional level

6 = Overall management at a divisional level

7 = Overall management at the company level (world-wide if applicable)

8 = Others, please specify \_\_\_\_\_

## Cultural and Trust Values

Please rate the following items by circling the appropriate number on the scale. The items are related to your *cultural values and trust values in business contexts*.

Definitions:

‘Strong ties’ – people *with whom you have a strong relationship in business contexts*, such as business co-owners, key customers, key suppliers, strategic alliance partners, friends or relatives.

‘Weak ties’ – people *you know directly but with whom the relationships are more distant*, i.e. where business encounters are more peripheral in nature.

*Please think of a few people that fall into ‘strong ties’ and weak ties’. Then, please proceed to answer the questions that follow.*

---

Completely disagree	Strongly disagree	Moderately disagree	Slightly disagree	Neutral/ Undecided	Slightly agree	Moderately agree	Strongly agree	Completely agree
-4	-3	-2	-1	0	+1	+2	+3	+4

### Cultural Values in Business Contexts, ...

01	It is important to consider implications that they have for others when making decisions.	-4	-3	-2	-1	0	+1	+2	+3	+4
02	I find it difficult to be completely unaffected if I consider there is prestige attached to a person’s social background.	-4	-3	-2	-1	0	+1	+2	+3	+4
03	I expect my network contacts to reciprocate favours (e.g. information, ideas, advice, contacts, etc.)	-4	-3	-2	-1	0	+1	+2	+3	+4
04	I enjoy being unique and different from others.	-4	-3	-2	-1	0	+1	+2	+3	+4
05	I don’t mind being dependent on my strong ties.	-4	-3	-2	-1	0	+1	+2	+3	+4
06	I value a sense of independence from the influences of others.	-4	-3	-2	-1	0	+1	+2	+3	+4
07	Other people’s opinions influence my approach in handling matters.	-4	-3	-2	-1	0	+1	+2	+3	+4
08	I believe that we should be self-sufficient by utilising our own resources.	-4	-3	-2	-1	0	+1	+2	+3	+4
09	I tend to handle business problems or worries by myself instead of sharing them with anyone else.	-4	-3	-2	-1	0	+1	+2	+3	+4
10	It is more important to be polite than to be honest with other people.	-4	-3	-2	-1	0	+1	+2	+3	+4
11	I feel very uncomfortable until I can return a favour that someone has done for me (e.g. information, discounts, referrals, new business, contacts, etc.)	-4	-3	-2	-1	0	+1	+2	+3	+4

## Appendix G

12	A very important way of showing my respect for people in my circles is to help them when they are in difficulties.	-4	-3	-2	-1	0	+1	+2	+3	+4
13	It is important to show understanding and empathy towards those with whom I do business.	-4	-3	-2	-1	0	+1	+2	+3	+4
14	In awkward or difficult situations, it is important to avoid appearing foolish.	-4	-3	-2	-1	0	+1	+2	+3	+4

### **Cultural Values in Our Society** (Please respond to the following cultural statements as applied to your society)

15	A person's first responsibility is to fulfil people's expectations of him/herself.	-4	-3	-2	-1	0	+1	+2	+3	+4
16	Everyone should have the right to make their own choices, even if they turn out to be mistaken.	-4	-3	-2	-1	0	+1	+2	+3	+4
17	People should not let others tell them what to do or think.	-4	-3	-2	-1	0	+1	+2	+3	+4
18	A good citizen has to accept their obligations to contribute to society.	-4	-3	-2	-1	0	+1	+2	+3	+4
19	Self-discipline is more valuable than spontaneity.	-4	-3	-2	-1	0	+1	+2	+3	+4
20	People should set their own goals in life and not be influenced by others.	-4	-3	-2	-1	0	+1	+2	+3	+4
21	I would rather struggle through a personal problem by myself than discuss it with my friends.	-4	-3	-2	-1	0	+1	+2	+3	+4
22	When handling matters and people in daily life, I can be myself without giving consideration to other people's opinions.	-4	-3	-2	-1	0	+1	+2	+3	+4

### **Trust Values in Business Contexts**

#### Trust with Strong ties

23	When there is friendship between myself and my strong ties, I tend to be more accommodating when handling conflicts of interest.	-4	-3	-2	-1	0	+1	+2	+3	+4
24	For the sake of long-term relationships, I don't expect every business deal with my strong ties to be profitable.	-4	-3	-2	-1	0	+1	+2	+3	+4
25	Considerations of friendships, mutual respect or pride would influence my judgement in doing business with my strong ties.	-4	-3	-2	-1	0	+1	+2	+3	+4
26	My relationships with my strong ties are always reciprocated equally.	-4	-3	-2	-1	0	+1	+2	+3	+4
27	It is possible that my strong ties take advantage of my weaknesses to betray me.	-4	-3	-2	-1	0	+1	+2	+3	+4

## Appendix G

### Trust with Weak Ties

28	I can be more direct in negotiating about prices with weak ties than strong ties.	-4	-3	-2	-1	0	+1	+2	+3	+4
29	In doing business with a weak tie for the first time, I would start with something minor in which little risk is involved.	-4	-3	-2	-1	0	+1	+2	+3	+4
30	Before committing myself to more major business with a weak tie, I would take extra steps to confirm my judgements about whether I could trust him/her and if the company is sound.	-4	-3	-2	-1	0	+1	+2	+3	+4
31	Before committing myself to average size or more major business with a weak tie, I would ensure that I know about all aspects of the person, including family background.	-4	-3	-2	-1	0	+1	+2	+3	+4

### Overlap of Business, Friendship and Family

32	I avoid doing business with my family members or relatives.	-4	-3	-2	-1	0	+1	+2	+3	+4
33	In business, I prefer not to give priority to personal friendships – business is business.	-4	-3	-2	-1	0	+1	+2	+3	+4
34	I feel more comfortable if I do not know my business associates (who are strong ties) as friends.	-4	-3	-2	-1	0	+1	+2	+3	+4
35	I find it easier to make decisions involving business associates (who are strong ties) if I do know them as friends.	-4	-3	-2	-1	0	+1	+2	+3	+4
36	I prefer to keep my business and social life separate (excluding family).	-4	-3	-2	-1	0	+1	+2	+3	+4

### Perception of Contracts and Law

37	I believe that financial safeguards will decrease the risks of transaction failures, particularly with smaller companies.	-4	-3	-2	-1	0	+1	+2	+3	+4
38	In our society, we rely on legal regulations and formal rules to provide a secure environment for business dealings.	-4	-3	-2	-1	0	+1	+2	+3	+4
39	In our society, contracts are very important.	-4	-3	-2	-1	0	+1	+2	+3	+4
40	I think that business people in our country abide by the terms set out in their contracts.	-4	-3	-2	-1	0	+1	+2	+3	+4
41	I believe that there should be flexibility in contracts for subsequent re-negotiation.	-4	-3	-2	-1	0	+1	+2	+3	+4
42	I think that business people in our country generally obey the law.	-4	-3	-2	-1	0	+1	+2	+3	+4
43	When legal actions would be costly for me, I cannot rely on the law as an enforcement mechanism to recover bad debts.	-4	-3	-2	-1	0	+1	+2	+3	+4
44	In situations where laws cannot protect me, I can only trust my strong ties.	-4	-3	-2	-1	0	+1	+2	+3	+4
45	I think that there is a significant number of business people in this country who take steps to circumvent (go round) the law when there is no alternative.	-4	-3	-2	-1	0	+1	+2	+3	+4

## Appendix G

46	Government connections can be beneficial when one is involved in litigation.	-4	-3	-2	-1	0	+1	+2	+3	+4
47	When there is limited trust in a business relationship, contracts are used as safeguards.	-4	-3	-2	-1	0	+1	+2	+3	+4
48	I rely on the law as an enforcement mechanism to protect my business interests.	-4	-3	-2	-1	0	+1	+2	+3	+4
49	I think it is acceptable to secure commercial advantage through one's government connections.	-4	-3	-2	-1	0	+1	+2	+3	+4
50	Economically, there is a high degree of freedom for us to develop businesses or enterprises.	-4	-3	-2	-1	0	+1	+2	+3	+4

Completely disagree	Strongly disagree	Moderately disagree	Slightly disagree	Neutral/ Undecided	Slightly agree	Moderately agree	Strongly agree	Completely agree
-4	-3	-2	-1	0	+1	+2	+3	+4

### General Business Trust

01	I trust people who share my principles of honesty.	-4	-3	-2	-1	0	+1	+2	+3	+4
02	When doing business with people whom I know well, it is socially acceptable to express directly what I want financially.	-4	-3	-2	-1	0	+1	+2	+3	+4
03	I trust people with whom I have shared the experience of solving business problems.	-4	-3	-2	-1	0	+1	+2	+3	+4
04	I can do business with people who are not totally honest, so long as I put safeguards in place.	-4	-3	-2	-1	0	+1	+2	+3	+4
05	When conducting average size or more major business, it is important for me to do business with people I believe to be honest.	-4	-3	-2	-1	0	+1	+2	+3	+4
06	Before I commit myself to average size or more major business, my assessment of the other party's financial strength is more important than whether my relationship with them is strong or weak.	-4	-3	-2	-1	0	+1	+2	+3	+4
07	There is in general no obligation to reciprocate favours (e.g. information, discounts, referrals, advice, contacts, etc.)	-4	-3	-2	-1	0	+1	+2	+3	+4
08	I believe that even when someone has integrity socially (e.g. acts responsibly in daily life), this does not mean that he/she will display the same integrity in business.	-4	-3	-2	-1	0	+1	+2	+3	+4
09	I can tolerate negative qualities, which I perceive in others, if it brings financial success.	-4	-3	-2	-1	0	+1	+2	+3	+4
10	Just as with strangers, I must be careful when doing business with people I know well, in order to avoid being cheated.	-4	-3	-2	-1	0	+1	+2	+3	+4
11	When I obtain a business project as the result of an introduction by a friend whom previously I have only known socially, I would find a way to reciprocate the favour (e.g. commissions, appropriate gifts, etc.)	-4	-3	-2	-1	0	+1	+2	+3	+4
12	I can tolerate doing business with others who use unconventional approaches (such as creative accounting, cutting corners, etc.).	-4	-3	-2	-1	0	+1	+2	+3	+4
13	I can tolerate regular clients who repeatedly delay payments.	-4	-3	-2	-1	0	+1	+2	+3	+4



## University of Oxford

### **BUSINESS OWNERS AND SENIOR EXECUTIVES' BUSINESS TRUST WITH THEIR NETWORK CONTACTS**

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Dear Sir/Madam,

Do you have customers?

Do you have a network of contacts to increase your business whether you own it or not?

Do you know what kind of people you trust or don't trust?

When **your answers** are all **YES**, please read on.

Please allow me to introduce myself. My name is Mo Yuet-Ha, . . . . I am a doctoral researcher in the fourth year from Oxford University working on business trust ( . . . . ). I am writing to ask for your help to complete a short questionnaire that you may find interesting. It will take about 8 minutes of your time. It examines some aspects of business trust and the cultural context within which trust is practised by Chinese business owners and senior executives in Hong Kong. The full research programme includes an extensive study of the trust values of British counterparts in Southern England. The aim of this present survey explores cultural differences in business trust between Hong Kong Chinese businessmen/women and their counterparts in southern England.

I hope that you will enjoy the following benefits by completing the questionnaire:

1. Feedback from the participants in the pilot studies has been encouraging. They found it thought-provoking or interesting in reviewing their trust behaviours.
2. In return for giving your valuable time, you will receive exclusive access to an executive summary of the findings. Please include your email address. I will contact you in early 2002 after the completion of the research.

One of the biggest challenges of the research is to find people like yourself to complete the questionnaire. Your time is precious. However, your contribution to the research will be very valuable to the business community in Hong Kong in the aspect of business trust cross culturally.

Please follow the instructions below and respond as frankly as you can. Your responses will be anonymous. All research data is kept confidential by the researcher. Thank you again for your contribution to this research.

Ms Mo Yuet-Ha . . .

Researcher

Department of Experimental Psychology

Hong Kong contact details between now and FEB 2001 (Tel: 2713 2760 Mobile: 98354581 fax: 2827 2011)

## Appendix G

**Please fax the completed questionnaire to Hong Kong 2827 2011, attention Mo Yuet-Ha**

Please rate the following items by circling the appropriate number on the scale. The items are related to your *cultural values and business trust values*.

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Definitions:

‘Strong ties’ – people *with whom you have a strong relationship in business contexts*, such as business co-owners, key customers, key suppliers, strategic alliance partners, friends or relatives.

‘Weak ties’ – people *you know directly but with whom the relationships are more distant*, i.e. where business encounters are more peripheral in nature.

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Completely disagree	Strongly disagree	Moderately disagree	Slightly disagree	Neutral/ Undecided	Slightly agree	Moderately agree	Strongly agree	Completely agree
-4	-3	-2	-1	0	+1	+2	+3	+4

### **Cultural Values in Business Contexts, ...**

01	It is important to consider implications for others when making decisions.	-4	-3	-2	-1	0	+1	+2	+3	+4
02	I find it difficult to be completely unaffected by prestige (i.e. social status) attached to a person’s social background.	-4	-3	-2	-1	0	+1	+2	+3	+4
03	I expect my network contacts to reciprocate favours (e.g. information, ideas, advice, contacts, etc.)	-4	-3	-2	-1	0	+1	+2	+3	+4
04	I enjoy being unique and different from others.	-4	-3	-2	-1	0	+1	+2	+3	+4
05	I don’t mind being dependent on my strong ties.	-4	-3	-2	-1	0	+1	+2	+3	+4
06	I value a sense of independence from the influences of others.	-4	-3	-2	-1	0	+1	+2	+3	+4
07	Other people’s opinions influence my approach in handling matters.	-4	-3	-2	-1	0	+1	+2	+3	+4
08	I believe that we should be self-sufficient by utilising our own resources.	-4	-3	-2	-1	0	+1	+2	+3	+4
09	I tend to handle business problems or worries by myself instead of sharing them with anyone else.	-4	-3	-2	-1	0	+1	+2	+3	+4
10	It is more important to be polite than to be honest with other people.	-4	-3	-2	-1	0	+1	+2	+3	+4
11	I feel very uncomfortable until I can return a favour that someone has done for me (e.g. information, discounts, referrals, new business, contacts, etc.)	-4	-3	-2	-1	0	+1	+2	+3	+4

## Appendix G

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## Appendix G

would find a way to reciprocate the favour (e.g. commissions, appropriate gifts, etc.)

- 12 I can tolerate doing business with others who use unconventional approaches (such as creative accounting, cutting corners, etc.). -4 -3 -2 -1 0 +1 +2 +3 +4
- 13 I can tolerate regular clients who repeatedly delay payments. -4 -3 -2 -1 0 +1 +2 +3 +4

### Comments

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### Characteristics of the Hong Kong Participant

1. Gender 1 = Male 2 = Female
2. Age \_\_\_\_\_(this information is required to construct the profile of the participants)
3. Marital status 1 = married 2 = separated or divorced 3 = single
4. Education attained 1 = primary school 2 = secondary school 3 = Bachelor degree 4 = Post graduate qualification
5. Where were you born? 1 = Britain 2 = Hong Kong 3 = Shanghai  
4 = Beijing  
5 = Other parts of China, please specify the town and the province \_\_\_\_\_  
6 = Others, please specify the country \_\_\_\_\_
6. What is your main cultural identity?  
(The categories have been classified for the purpose and the scope of the present research only)  
1 = British 2 = Other Caucasian, please specify \_\_\_\_\_  
3 = Hong Kong Chinese 4 = Shanghainese 5 = Beijingers 6 = Chinese from other parts of China  
7 = Overseas Chinese 8 = Other Asian, please specify \_\_\_\_\_  
9 = Others, please specify \_\_\_\_\_
7. What is your native tongue? (That is the language with which you were brought up at home)  
1 = English 2 = Cantonese 3 = Shanghainese 4 = Mandarin  
5 = Other Chinese dialects, please specify \_\_\_\_\_  
6 = Others, please specify \_\_\_\_\_

## Appendix G

8. Please provide us with your name and email address if you wish to be contacted when the research findings are published. (If you do not have an email address, please enter your fax number with a country code)

Name: \_\_\_\_\_ (Optional)

Email: \_\_\_\_\_ (Optional, please write clearly)

9. Is the company publicly listed? Yes or No

10. Nature of business

1 = Consumer manufacturing	5 = Trading	9 = Others, please
2 = Industrial manufacturing	6 = Financial services	specify _____
3 = Retail	7 = Other services	
4 = Wholesale	8 = Information technology	

11. Your new business is *mainly* generated from ... (please circle one choice)
- |  |
|--|
| 1 = my network contacts' referrals                             |
| 2 = word of mouth  |
| 3 = direct mail and direct call                                |
| 4 = business events e.g. seminars, conferences and exhibitions |
| 5 = advertising in trade magazines or newspaper                |
| 6 = other, please specify _____                                |

12. Number of years you have been building your current network of contacts \_\_\_\_ years

13. For the purpose of the research, which category do you see yourself in?  
*Please ✓ either category 1 or 2 and then proceed to answer the questions in the category you have chosen.*

\_\_\_\_ Category 1 = business owners who own an equity stake of at least 5% or more of a business

and → Number of years of owning and managing your business(es) is \_\_\_\_\_ years

and → Are you the *key decision-maker* in the business? Yes or No

**or**

\_\_\_\_ Category 2 = Senior Executives who have important external business relationships either with customers, suppliers, creditors and so forth but who does *not* have an equity stake of 5% or more.

and → Number of years that you have been a senior executive \_\_\_\_\_ years

and → Which management area are you currently in?

1 = Production
2 = Marketing and Sales
3 = Finance

## Appendix G

4 = Purchasing

5 = Overall management at a regional level

6 = Overall management at a divisional level

7 = Overall management at the company level (world-wide if applicable)

8 = Others, please specify \_\_\_\_\_

**Thank you for your participation and please fax to Hong Kong 2827 2011.**

**The**

**front page covering letter is not required to be faxed back.**