The Influence of Social Capital and Guanxi on Organizational Learning and Innovation in SMEs

PhD Thesis

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ACKNOWLEDGEMENTS

In the completion of this thesis, many people provided me with spiritual and substantial support that I would like to thank them. I could not have finished this thesis without their assistance.

Firstly, I would like to thank Professor Mark Easterby-Smith, who always encourages me and provides me various advices with much patience and passion. He shows me directions but also gives me lots of space to my research. I feel very lucky working with Mark. I really appreciate his supporting and kindness, and his warm understanding in any situation. In addition, I would like to thank Dr. Carole Elliott, who also provides me numerous knowledge and suggestions which help me make the study become mature. I also really appreciate her understanding and patience, supporting me to finish this study. Also, I would like to thank Professor Carole Howorth and Professor Allan Macpherson, who provide me useful suggestions for my thesis and help me to make this work with clearer trajectory.

Secondly, I would like to thank all the people in the companies which I visited. Especially Mr. Huang and Mr. Chen, they not only gave me lots of space to my data collection, but also introduced their social networks to me. Without them, my field work would not have processed smoothly.

Thirdly, I would like to thank all the friends who I met in the U.K., especially Michael, Lesley, Ting, Stephen, Allan, Vicky, Isaac, Emily, Danny and Tulip. They enriched my life in Leeds, Manchester and Lancaster and coloured my research life. They showed me the beauty of the U.K. and also made me strong to live abroad alone. Also, I would like to thank the people who I met in BLIA-YAD (Buddha's Light International Association-Young Adult division), especially people in Nan-Tai subdivision, Taiwan. They gave me lots of happiness and warmness. They accompanied me through the hardest period of my study life.

Besides, I would like to thank my family, especially my parents. Without my Dad's support, I could have not had an opportunity to study this degree; and without my Mum's encouragement, I might have had given up this study. And also with full of appreciation to my sister and brother, they always knew how to let me feel better when I was down. I do feel very lucky to have them and they are the most important people in my life.

Last but not least, I would like to thank Bodhisattva, my ideological prop, who gave me strength when I was weak. All my kindness and positive tendency come from his blessing.

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Abstract

Literatures of learning in organisations have discovered social capital could enrich the information and knowledge acquisition for organisational development. Typically social capital is taken as the resource which could dominate the volume of external knowledge; and the relevant discussions also mainly concentrate their advantage on external interactions. In this thesis, I turn the emphasis to internal networks. In the relevant researches of organisational learning, they have pointed out the significant influences of power, labour division and internal/departmental boundaries on knowledge sharing and learning interactions. Social capital, which is existed within and between group networks, could affect their organisational learning. Thus, in this thesis, I am going to seek the contributions on the studies of organisational learning and social capital by demonstrating the effect of social capital on knowledge transfer and learning ability, with the emphasis of internal social networks.

In order to present the influences of social capital on collective learning by comparing different social networks, I provide the evidences which were collected in family and non-family businesses. They are allocated on smaller IT Industry in Taiwan. Family businesses and non-family businesses have different social interactions; IT industry in Taiwan is a significant sector with intensive knowledge communication. They therefore became the researched groups which could facilitate the study.

This thesis will develop the following topics: 1) the effect and development of social capital and guanxi on internal social interactions and collective learning; 2) the comparison of different social networks through the data in family and non-family businesses; and 3) the efficiency of learning and innovation under different social networks. I present the comprehensive discussions between social capital and collective learning, in which it consists of the contribution on the development of social capital theory and also the effect of social networks on collective learning. Besides, I add the concept of guanxi to explain and discover some specific social interactions embedded in Chinese/Taiwanese culture. This discussion introduces the important role of guanxi in Chinese/Taiwanese society and also provides some new insights of guanxi in Chinese/Taiwanese social interactions. Besides, it also illustrates the effect of guanxi on knowledge accumulation and resource development in Chinese/Taiwanese social networks. Furthermore, I stress on the effect of social networks which could contribute to different learning efficiency and innovation capability. These comprehensive discussions about their learning efficiency between two different types of social networks could not only present the influences of social capital and guanxi on their internal learning but also provide an in-depth understanding on learning in smaller family and non-family businesses in Taiwan.

Thus, this thesis is constructed by the theoretical basis of social capital, guanxi and organisational learning. The contributions cover the development of each theory respectively and also the integrated findings with evidence in family and non-family businesses.

Chapter One Introduction

In the relevant literature, organisations which are recognised as institutional settings or social communities with a capability for the creation and transfer of knowledge facilitate the efficiency of knowledge development and the transfer of tacit knowledge (Kogut and Zander, 1996; Nahapiet and Ghoshal, 1998). As Nahapiet and Ghoshal (1998) point out, social capital can facilitate the creation of intellectual capital and organisations are conducive for the development of high levels of social capital. Thus, knowledge sharing and creation within organisations is closely related to their social networks and social interactions. Research in organisational learning has also highlighted the effect of social capital on knowledge development and learning resources, in that social capital can help to provide access to greater amounts of information and enhance the absorptive capacity of an organisation (Thorpe et al., 2005; Yli-Renko et al. 2001; Meeus et al, 2001). However, most of this research only discusses social capital in the context of external networks, whereas the intra-organisational interaction which enables the development of social capital is the key to knowledge sharing and development within an organisation (Nahapiet and Ghoshal, 1998). It seems therefore to be necessary to make explicit the effect of intra-social capital on learning and knowledge development. This thesis, which emphasises the effect of internal social interaction and networks (intra-social capital) on collective learning, is devoted to addressing this gap.

In addition, in order to facilitate a comparison between different types of social capital and to stress their influence on collective learning, this study uses data collected in

family and non-family businesses to illustrate the different implications of social capital. The data are drawn from two family businesses and two non-family businesses located in Taiwan. These are companies with fewer than 100 employees, two being IC design companies and two being in the software sector. This thesis will therefore include discussion of the comparisons between family and non-family businesses, of social capital and guanxi (social capital from a Chinese/Taiwanese perspective), of the situation of Taiwanese SMEs (small and medium enterprises) and of the context of the Taiwanese IT industry.

In this first chapter, in order to identify the incentives to conduct this research and also the relevant ideas which underpin this study, I will first illustrate the importance of the relevant topics of this research, explaining the significance of the research themes and also their roles and the ranges of domain of this research. Second, as this research covers two research fields, social capital and organisational learning, which have varied theories and concepts, I think it is necessary to identify the range of domain in these two research fields. Which aspects of the relevant theories I am going to connect and combine will therefore also be discussed in this section. Third, after providing an understanding of the themes and the domains of the theories that are covered in this thesis, I discuss the definitions of some of the specific concepts. This will provide some initial understanding of my research approach and also facilitate understanding of the literature review. Finally in this chapter, I give an overall outline of the thesis and summarise the content of its chapters.

1.1 The Main Topics in this Thesis

1.1.1 The Effect of Social Capital on Organisational Learning

The concept of social capital is related to the resources and benefits accumulated from social interactions and networks. Bourdieu (1986) notes that social capital is the actual or potential resources that can be accessed through social networks. Social capital therefore plays the role of providing the opportunity to access social resources. Organisational learning, which is a sort of social action or phenomenon that collectively gathers up and combines an individual's knowledge to make knowledge accumulation within an organisation more effective (Huber, 1991; Crossan et al., 1999; Kim, 1993; Elkjaer, 2003), is also closely related to social interactions and networks. Especially in the recent literature on organisational learning, some researchers note that power, labour division and departmental differences can affect organisational learning and knowledge transfer (Easterby-Smith et al., 2000, 2008a,b; Elkjaer, 2003; Carlile, 2002, 2003). Research into social capital might therefore illustrate the features of social interactions and networks which could help to understand how power or strategic structures affect organisational learning. I believe the effect of social capital could cause collective learning to take different forms and it is important to understand which features or characteristics of social interaction could result in which types of collective learning. This research is able not only to provide more insights into organisational learning, but also to demonstrate how social networks and power influence collective learning in an organisation.

1.1.2 Guanxi in Chinese/Taiwanese society

Guanxi plays an important role in social interaction and network access in Chinese/Taiwanese society (Yang, 1994; Yan, 1996; Bell, 2000; Hwang, 1987). It has some similarities to western social capital theory but it provides a more comprehensive understanding of Chinese/Taiwanese social capital from a cultural perspective (Hwang, 1987; Yang, 1994; Yan, 1996). Relevant research conducted by sociologists from Hong Kong, China and Taiwan presents the significant effects of guanxi in Chinese/Taiwanese communities and also illustrates specific phenomena which might not be explicable by using western social capital theory. As this thesis is devoted to studying the effect of social capital on collective learning in Taiwanese companies, it is necessary to introduce the concept of guanxi because guanxi dominates access to beneficial information and to resource opportunities (Bian, 2002). Collective learning, which emphasises knowledge accumulation through groups of people, would then be affected by guanxi due to its influence on social interactions. Guanxi influences who can obtain useful information or get into social networks (Bian, 2002; Hwang, 1987; Lin, 1998). This feature therefore gives guanxi an important role in social interactions and I believe it is necessary to discuss its influence on social relationships to discover how it dominates collective learning and knowledge transfer and transformation within Taiwanese companies.

1.1.3 Organisational Learning in Taiwanese SMEs

In Tsui-Auch (2003), Hong-Kong, Singapore, South Korea and Taiwan were chosen as four of the important parts of the Asian economy. With the rapid growth of China's

economy, the special relationship between China and Taiwan (because of the same language, culture and historical background) has given Taiwan access to relatively better business opportunities than other countries. Several Taiwanese companies that operate successful businesses in China have attracted researchers to investigate Taiwanese business (Tsui-Auch, 2003; Lu, 2006). In Lu's (2006) paper, he points out that Taiwanese business activity can initially be attributed mainly to smaller firms, but that small and medium enterprises (SMEs) have taken important positions in Taiwan's economic growth since 1980 (the period of economic boom). Taiwan, as a country that achieved its success through SME development, can therefore be considered an appropriate society to discuss the learning characteristics of SMEs.

According to the studies on organisational learning published in recent decades, developments in organisational learning have built upon both academic theories and practical propositions (Easterby-Smith, Burgoyne and Araujo, 1999). In recent years, the field of learning in SMEs has started to attract an increasing number of researchers (Cope, 2003; Cope and Watts, 2000; Taylor and Pandza, 2003, Thorpe et al., 2005). Cope (2003) develops his methodological approach to entrepreneurial learning by emphasising the significance of certain learning events in presenting deep-seated beliefs and values that affect the learning process. Cope and Watts (2000) note the entrepreneurial research that focuses on individual learning in a wider context of organisational growth and personal development. Thorpe et al. (2005) suggest a more systematic route to define the key factors of knowledge that is used in SMEs, believing that knowledge resources in SMEs are strongly affected by owner-managers, and are also situated in organisational routines.

To contribute more empirical research to this field, following Thorpe et al., I discuss internal routines and the effect of owner-managers on organisational learning. This research therefore attempts to discuss social capital and collective learning in smaller firms, and additionally suggests some improvements to learning research and makes contributions to learning studies in SMEs.

1.1.4 Collective Learning and Innovation in Business Competitiveness

A number of researchers have pointed out the importance of collective learning and innovation on organisational performance and knowledge development (Suseno and Ratten, 2007; Elkjaer, 2003; Harryson et al., 2008; Easterby-Smith et al., 2008a,b). Collective learning therefore plays an important role in influencing knowledge development in an organisation. In addition, especially in smaller businesses, innovation is a significant feature for a company's survival in an environment of fierce business competition (Bell et al., 2004; Tsui-Auch, 2003). In order to strengthen the competitiveness of businesses in the market, collective learning and innovation, which enhance their competitive advantage, could also facilitate organisational development. The study of collective learning and innovation is therefore important in identifying learning ability, knowledge accumulation and knowledge transfer and transformation in an organisation (Elkjaer, 2003; Harryson et al., 2008).

In addition, as the empirical research in this thesis was conducted in family and non-family businesses, the different forms of social structure and interactions which contribute to various types of collective learning and innovation also illustrate how collective learning and innovation influence organisational competitiveness. Thus, the

relevant issues and discussions of this topic provide not only the story and process of collective learning and innovation but also describe the business competitiveness of different types of organisation.

1.2 Research Domains

As the discussions in this thesis are mainly related to the fields of social capital and organisational learning, I think it is necessary to identify the range of the domain in the main theoretical fields. This is particularly necessary because research into social capital has been mainly conducted by sociologists (such as Bourdieu and Burt); this research, which was conducted in organisations and which will take an organisational perspective, needs first therefore to determine which conceptual domains will be used. In addition, organisational learning, which covers discussions of learning, from individual learning to collective learning (Huber, 1991; Crossan et al., 1999; Kim, 1993), also includes explicit results (for example, performance and innovation) and tacit phenomena, such as knowledge accumulation and absorptive capacity (Suseno and Ratten, 2007; Elkjaer, 2003; Harryson et al., 2008; Easterby-Smith et al., 2008). It is therefore important to illustrate the research domains in order to provide a certain preliminary understanding on this research.

1.2.1 Organisational Learning

Organisational learning, a growing research field, which was a popular topic in the 1990s both in academic research and business practice (Easterby-Smith, Burgoyne

and Araujo, 1999), still plays an important role in discussions of business competitiveness (Suseno and Ratten, 2007; Easterby-Smith et al., 2008a,b). From the 1990s to current studies, it has covered discussions of the forms and context of different levels of learning actors (from the individual to the organisation; see Huber, 1991; Crossan et al., 1999; Kim, 1993); the advantage and performance of learning outcomes (for example, dynamic capability, absorptive capacity, and innovation; see Zahra and George, 2002; Suseno and Ratten, 2007; Tsai, 2001; Teece et al., 1998); and the problems and possible features which could disadvantage organisational learning (for example, boundary, power and network configuration; see Harryson et al., 2008; Easterby-Smith et al., 2008a). According to the relevant research, we can understand that organisational learning, which has been recognised as a beneficial tool for organisational development, addresses the issue of the effectiveness of organisational learning and the possible problems and conditions embedded in social networks or organisational structures which might affect the results of learning, and does this in order to enhance the performance of organisational learning. In this thesis, in order to uncover the relevant issues and the situations that might affect the ability to learn collectively, I concentrate on a discussion of collective learning, with a focus on social interactions. As the ability for collective learning is understood as an important step in organisational learning (Huber, 1991; Crossan et al., 1999; Kim, 1993), this research, which emphasises people's interactions through observation of their daily work and meetings, could provide some insights and evidence which are relevant to learning ability and knowledge accumulation.

In addition, in the discussion of the learning ability of the observed companies (in Chapter Six), I also evaluate their learning process, discussing their absorptive

capacity and innovation capability. According to the relevant literature, absorptive capacity, which could represent dynamic capability in the face of changes and fast-developing markets (Zahra and George, 2002) and innovation capability, which could illustrate knowledge transfer and transformation (Tsui-Auch, 2003 and Harryson et al., 2008), could both facilitate the analysis of learning ability. My discussion will present two different social networks (family and non-family businesses) in order to strengthen existing theories of social networks and also provide some new insights and evidence for organisational learning research.

1.2.2 Social Capital

The research into social capital which has been conducted by researchers such as Burt started from community studies and then became an important way of explaining a range of social actions and phenomena. The relevant literature by Bourdieu, Coleman, Putnam and Burt will be discussed in more detail in the Literature Review chapter. Here, I illustrate some work by major sociologists to explain part of the work of this thesis from a sociological perspective. I also explain why I have chosen to use Nahapiet and Ghoshal's (1998) dimensions to demonstrate social capital in organisations.

Bourdieu's research presents in-depth discussions, including on the effect of social capital in culture, politics and education (Brown and Szeman, 2000; Bourdieu, 1993; Webb et al., 2002). His work, which covers varied social phenomena, argues that social capital has a high effect on human interaction and is embedded in numerous social structures. His work therefore has become a major influence in sociology and is

the main reference in discussions of social capital. Bourdieu (1986:248) defines social capital as the aggregation of "actual or potential resources which are linked to possession of a durable network of institutionalised relationships of mutual acquaintance and recognition – or in other words, to membership in a group". He points out that social capital is made up of social obligations or connections and is the possession of those maintaining and producing the collective asset; social capital takes repeated exchanges that reinforce mutual recognition and boundaries to affirm and reaffirm the collectivity of the capital. In addition, social capital, which is recognised as an asset obtained from collective accumulation through exchange resources and connections among members, can be taken as endowing members with credits. In this sense, as members are willing to stay and evolve in the group, they will continue to invest in the relationships. In this way, the obligations or the provided resources act as earned credits in the social group and the credits can be exchanged for other favours which might be taken as mutual obligations to other group members (Bourdieu, 1986). Bourdieu therefore understands social capital as another way of maintaining and reproducing the dominant class. He emphasises the collective benefit of social capital, which could represent a process by which people in the dominant class, by mutual recognition, reinforce and reproduce a privileged group that holds various forms of capital (economic, cultural and symbolic). Social capital is a group/class good (privilege) in his opinion (Lin, 1998).

Coleman (1990) also supports the idea of collective benefits, but with a relatively complicated idea. He recognises social capital as a public good that individuals can choose to get involved with. As individuals can decide which group they want to get into, social capital exists as a public resource and individuals can depend on personal

benefits (Coleman, 1990). Putnam (1993), agrees with Coleman, noting that social associations (such as the voluntary community) promote collective norms and trust, which are used for the maintenance of their collective well-being, and present a certain range of values that might influence individuals to get involved or not. Although social capital seems to be privileged goods for a particular party (Bourdieu, 1986), it also could be a public good for individuals (Coleman, 1990; Putnam, 1993). Social capital in general is produced by people's continuous interactions and is embedded in social interactions and networks. Lin (2001:24) provides an overall statement based on this research literature: "social capital consists of resources embedded in social relations and social structure, which can be mobilised when an actor wishes to increase the likelihood of success in a purposive action."

Burt also emphasises the construction of social structure and claims that the configuration of social structure could highly determine the features of social capital and social interactions (Burt 1992). His work provides a relatively scientific and graphic explanation of social networks.

The dimensions of social capital, according to Nahapiet and Ghoshal (1998), are structural, relational and cognitive. As my research emphasises the effect of social interaction and networks on collective learning, the work of Nahapiet and Ghoshal, which is devoted to understanding the creation of intellectual capital from social capital, is close to the aim of my research, which relates to studying learning and knowledge transfer and transformation is related to the study of learning and of knowledge transfer and transformation from social networks within a company. Nevertheless, Nahapiet and Ghoshal's dimensions, which are derived from the work

of sociologists, also support and are supported by the major theories emerging from sociology. Therefore as regards Bourdieu, who is the major researcher on social capital, some aspects of his concept which are relevant to this thesis are also included. Also, Burt's (1992) work on structural networks is taken as the main conceptual support in the discussion of social capital in the structural dimension. The research domain of social capital in this thesis can therefore be understood as mainly following the ideas of Nahapiet and Ghoshal (1998), but also referring to the main concepts of social capital developed in sociology.

1.3 Definitions of the Specific Concept

1.3.1 Guanxi

The definitions of social capital and guanxi have some overlap but also have some different features that I think necessary to outline in this introductory chapter.

Guanxi has some similarity to concepts of social capital, but is specific in its understanding of cultural effects and emphasises different features. Guanxi is defined as an asset deriving from social interactions but it has been recognised as being strongly affected by Confucianism. It stresses the importance of familial and pseudo-familial relationships in Chinese/Taiwanese society (Yang, 1994; Hwang, 1987; Yan 1996; Bell, 2000). A more in-depth discussion of guanxi will be introduced in the Literature Review, but here I focus on the specific characteristics of guanxi that differ from social capital. I identify two specific characteristics of guanxi: 1) The importance

of familial/pseudo-familial relationships; and 2) the significance of individual reputation.

The first specific characteristic of guanxi is the strong effect of the family relationship. As guanxi has developed from Confucianism, which strongly stresses familial relationships, social relationships are highly related to affective bases and it is the levels of sentiment and sentimental connections that dominate the social relationship (Yang, 1994; Park and Luo, 2001; Bian, 2001). Thus, social groups or parties in Chinese/Taiwanese society are not merely developed by means of particular norms or purposes as with western social capital, but are mainly based on familial or pseudo-familial relationships. The concept of 'family as an important part embedded in our life', as promoted by Confucianism, gives social interactions a high reliance on familial sentiment and obligation. The other specific characteristic here is the emphasis on individual reputation. This can be seen in discussions of face (mianzi), which claim that the exchange of favours in Chinese/Taiwanese society is like an exchange of individual mianzi (Hwang, 1987; King, 1988). Some relevant research provides evidence that individual reputation affects the possibility of getting access to social resources (Park and Luo, 2001; Bian, 2001). In other words, it is usually the individual's reputation in the group that affects which people get into which community. A social community might have its own central principles which attract people to get involved, but it is 'who' is joining this community that influences people's decisions regarding which group they get into in Chinese/Taiwanese society.

To conclude, social capital and guanxi both have characteristics of the concept of social capital in that they both deliver the exchange concept through social interaction.

They share the idea of the importance of social obligation which might be enforced but which activates a continuous relationship and favour exchange which other non-members cannot obtain (Bourdieu, 1986; Lin, 1998; Hwang, 1987). Although guanxi has a more sentimental base and is relatively individualistic, both social capital and guanxi allow that social networks and social structures can effect different aggregations of social resources (Burt, 1992; Hwang, 1987; Yang, 1994). Therefore, guanxi, which is a more cultural factor, could play a supporting role in analysing Chinese/Taiwanese social capital. If some phenomena cannot be explained through social capital theory, guanxi may help to meet this deficiency.

1.3.2 SMEs (Small and Medium Enterprises)

The definition of SMEs varies in different geographical regions. Most places use *the number of employees* to define SMEs and some countries also add *the limits of financial turnover* in certain particular sectors as an alternative definition of SMEs. Accordingly, the SME White Paper 2007 which is issued by the Small and Medium Enterprise Administration of Taiwan summarises several definitions of SMEs in different countries. In countries of America, such as the U.S.A., Canada and Mexico, companies with fewer than 500 employees are defined as SMEs. In the U.K. and most western European countries (for example, Germany and France), the limitation is 250 people. In Asia, Japan and Korea place a maximum of 300 people as a condition of SMEs, while in Taiwan and Singapore it is 200 people. Other places with a relatively restricted limitation for SMEs include Hong Kong, where it is 100 people, Malaysia where it is 150 and New Zealand where only a company with under 19 employees can be identified as an SME. Additionally, some places such as Japan, Korea, the U.S.A

and Taiwan also use financial turnover as an alternative means of defining SMEs in certain sectors.

As the empirical research in this thesis was conducted in Taiwan, while some of the theoretical concepts have been extracted from U.K. and U.S. studies, the definition of SMEs needs an appropriate orientation. From the information in the introduction above, I conclude that the definition of SMEs is highly related to the whole economic body. Larger economies such as the U.S.A. use 500 people, which might be a result of their richer resources and populations. Regions with smaller economies such as Asian countries (for example, Japan, Korea and Hong Kong) and Europe then use a relatively smaller number to define SMEs. Thus, the discussion of the definition of SMEs, which might be associated with the size, regional environment and economic resources of a country, serves actually mainly to present which range of companies could be defined as SMEs and have the characteristics of SMEs (for example, capital and human resource) in which country. A company in Taiwan with less than 200 people might therefore have similar general characteristics to a company of under 250 employees in the U.K. I believe that, as this study is mainly focused on data from and phenomena in smaller businesses, relevant research which has taken place in different countries can also be considered as covering some characteristics similar to Taiwanese SMEs. My empirical study, which was conducted in Taiwan, will therefore use the definition of *under 200 people* to select the sample, although some SME research conducted elsewhere will also be considered as providing insight into the SMEs in this research.

1.3.3 Family Business

The definition of family business is wide-ranging (Westhead and Cowling 1998; Sharma 2004; Howorth et al. 2006), but includes aspects such as the percentage of the ownership, the percentage of family members involved in the senior management and power control, and multi-generation aspects (Westhead and Cowling, 1998). In earlier research, the definition focused on generational ownership (a company passes on its ownership and management to the next generation) and internal relationships, mainly based on kinship (Ward, 1987; Channon, 1971). In recent years, the definition has focused on the control of power. Cromie et al. (1995) and Reynolds (1995) both point out that if over 50% of the ownership of a company is controlled by one family and this family also takes a majority of the senior management, then the company can be defined as a family business. However, according to Howorth et al.'s (2006) research in large family businesses, this percentage (50%) might not be appropriate. In a large family business, even a small percentage of management team (3-5%) can provide a strong influence on the company. In this thesis, however, the research focuses on smaller family businesses, in which the limits of percentage (50%) will not be a concern.

In this thesis, in order to have a clear definition of a family business, I use Reynolds' (1995: 8) definition, which has clear measures for identifying a family business: i.e., where more than 50% is owned by family or kin, and 50% or more of the family or kin are on the management team. As my research is focused on the effects of owner-managers and on internal relationships, Reynolds's definition, based on ownership and

management control, is more suitable for my research than other definitions of family business.

1.3.4 IT (Information Technology) Industry in Taiwanese business

The research in this thesis took place in smaller IT companies in Taiwan. There were four observed institutions, which are situated in the software and integrated circuit design (IC design) sectors. Government reports on SMEs for 2006 and 2007 present the number of high-technology companies as increasing every year. The volume on *The Introduction of High-Technology Companies in Taiwan* published by Financial Information also points out the importance of the IT industry to Taiwanese business. The evidence for this can be found not only in some research relevant to IT industries in Taiwan (Liao et al., 2007; Hung et al., 2003; Lien et al., 2007) but also in government policy which has supported the development of several Science Parks from the north to the south of Taiwan (mainly in Taipei, Hsinchu, Changhua and Tainan) (see 'The Introduction of Science Parks' on the website of the Ministry of Economic Affairs, URL: http://www.moea.gov.tw/, 2008). Even the reports of the College Entrance Examination Centre (CEEC) for the last three years (2005-2007) indicate that subjects related to Electronic Engineering and Computer Science are the two most popular subjects, with the highest entrance score in most universities (including the top university, National Taiwan University). The IT industry therefore not only plays an important role in Taiwanese businesses but is also considered to be the major field for Taiwanese business development in the future.

Thus, this research in the software and IC design sectors of the IT industry might facilitate the study of knowledge and learning phenomena. Since the IT industry has been supported and developed for over twenty years in Taiwan (the first high-tech district, Hsinchu Science Park, was established in 1980 in Hsinchu), this industry could provide a mature environment and also an important group from which to study Taiwanese business development. Besides, the high demand for technological skills and the rapid changes in this industry also make this industry a knowledge-intensive sector, with a high speed of information exchange (Hagedoorn et al. 2006; Dovey and White, 2005). This industry, which can be regarded as knowledge-rich, with a high requirement for learning ability, has therefore been selected as the subject of this thesis.

1.4 The outline of this Thesis

In this section, I provide an outline of this thesis to summarise the relevant discussions in the following chapters. There are seven chapters in this thesis (including Chapter One, Introduction). Chapter Two is the Literature Review and Chapter Three is Methodology. Chapters Four to Six are the chapters of analysis and discussion of the empirical research and results. In Chapter Seven, I provide integrated discussions of the relevant topics and point out the main contributions of this thesis. This outline, which covers the main issues and themes of this thesis, provides some initial insights into each chapter.

1.4.1 Chapter Two Literature Review

In Chapter Two, to facilitate the relevant discussions and to define the concepts under scrutiny, the literature review covers ideas and topics related to this thesis, illustrating the theoretical bases of the research and identifying deficiencies in the current literature. In Chapter Two, in order to facilitate the relevant discussions and define the concepts to be discussed, the literature review, which covers the related ideas and topics of this thesis, illustrates the theoretical bases of this research and also identifies deficiencies in the current literature. This chapter begins with the literature on social capital and guanxi. I illustrate the three dimensions of social capital identified by Nahapiet and Ghoshal (1998) to define the concept of social capital, which can be identified through structural, relational and cognitive dimensions embedded in social networks and social interactions. I also provide a comprehensive presentation of guanxi and illustrate its differences from social capital theory. The presentation starts with the concept of Confucianism and then considers its historical effect and its dimensions and relevant issues. These discussions on social capital and guanxi not only introduce and criticise the relevant issues but also facilitate the analysis of the empirical data and the discussions that follow in Chapters Four and Five.

Secondly, I provide a literature review on organisational learning studies. I include some relevant literature to identify the importance of collective learning and also some related research on organisational learning. This section puts an emphasis on explaining the idea of organisational learning and the focus of current research. It therefore presents the reasons for situating this study in studies of social interaction and collective learning and also solidifies the main contributions and issues in the

following chapters. In Chapters Four and Five, the basic knowledge of organisational learning helps to understand the effect of social interactions and networks on collective learning. The review of learning studies in Chapter Six, a section that mainly discusses learning and innovation in different social networks, facilitates and strengthens certain ideas and topics on learning in different types of social networks.

Thirdly, as the research subjects are SMEs (Small and Medium Enterprises), it is necessary to illustrate some specific characteristics of SMEs. Thorpe et al. (2005) review SMEs and the significant influence of owner-managers which is the major specific characteristic of SMEs. Owner-managers usually dominate most of the significant affairs and have relatively strong power compared to managers in larger companies (Thorpe et al., 2005). Therefore, I discuss their internal routines to stress the specific conditions in SMEs. In addition, the specific characteristics of Taiwanese SMEs are also depicted. And finally, I illustrate environmental difficulties and other situations relevant to innovation in Taiwanese SMEs. Through some relevant literature, this section provides certain general ideas of the status of innovation in Taiwanese SMEs.

1.4.2 Chapter Three Methodology

In this chapter, I present the research questions, the research design and relevant information on conducting and analysing the research. Firstly, as this study mainly focuses on observing practical phenomena to illustrate and develop theoretical ideas, the research design develops from the idea of social constructionism. Secondly, the research strategy is that of case study, which presents a particular contemporary

phenomenon within its real-life context using multiple sources of evidence (Robson, 2002). There are four companies that I include in my research (two family businesses and two non-family businesses). I collected the relevant data through participant observation and semi-structured interviews, staying in each company for two to three weeks, during which I attended group meetings, observed their daily work and also joined in some of their social activities to collect relevant information. I also conducted interviews with the owner-managers and some of the employees to enrich the data. Some of the interviews were recorded but some were not because of the interviewee's objections. I used note-taking when I did not have consent to use a recorder.

Thirdly, I illustrate the process of getting access to each company, giving details of choosing the companies and also of social networks in Taiwanese companies. Some basic information on the background of each company is given and the situation during my stay is also illustrated. I then turn to the method of analysing the data. Since, due to the language barrier, I do not use NVivo as a tool for analysing the data, I explain the method and categories of the process of analysis to illustrate my context of analysis. Finally, I share some experiences of and thoughts about being in an observer role and also discuss the ethical considerations of this empirical research. The limitations of the research are discussed in Chapter Seven and some restrictions of, and difficulties encountered during, the research and analysis are also included in this chapter.

1.4.3 Chapter Four Social Capital and Collective Learning

This chapter discusses the effect of social capital on collective learning. I first mention relational links, covering identification, trust, norms, obligation and expectation, to discuss the phenomena of social capital in the family and non-family businesses. From my observations, I realise that family businesses are relatively heavily dominated by relational links; studying family business is therefore appropriate to identify the effects of relational links on social interactions and collective learning. I use some stories and data from the interviews and also reports of phenomena and information collected through my observation of meetings and daily work to demonstrate the effects of relational social capital on group work and social interaction within the company.

On the other hand, I use network structure, network ties and network interactions to illustrate the effects of structural links in the family and non-family businesses. Conversely, in the non-family businesses, social networks and social interactions are more dominated by structural links. The stories about their scheduled meetings and people's interactions show that, unlike family businesses with relatively intensive and personal contacts, communication and interactions in the non-family businesses are mainly for work purposes. Relevant stories and data from my observation of meetings and daily participation and interviews present the influence of structural links on social interaction and collective learning within the company.

The main contribution of this chapter is to illustrate the different types of social network in family and non-family businesses. Furthermore, I point out the strong

effect of social structure, since some types of relational relationship (such as friendships or with classmates) are actually constructed on the basis of social structure (for example, the educational system (social structure) which makes people get together as classmates). It is the social structure, such as educational systems and certain social activities (sports group, company departments and other social groups such as rotary club), that determines which people become colleagues, partners or classmates and then further on develop their mutual trust and norms (relational links). In addition, I find that some of the phenomena are not easy to explain through social capital theory. This might be due to cultural differences and it is therefore necessary to search for other theories with more relevant cultural bases. Thus, in the next chapter, I illustrate the concept of guanxi, which has relatively rich Chinese/Taiwanese cultural perspectives, to analyse the data and demonstrate certain relevant concepts more precisely.

1.4.4 Chapter Five Guanxi and Collective Learning

In Chapter Five, the discussion continues to focus on social interactions in the company, but from a more cultural perspective in which I use the theory of guanxi to illustrate and analyse social capital and social interactions in family and non-family businesses. The discussion starts with a brief introduction of guanxi and then later provides evidence of internal interactions to illustrate and discuss the relevant phenomena. Guanxi can be categorised in three dimensions (Bian, 2002), namely guanxi as the web of extended familial obligation (familial guanxi), guanxi as exchange networks of particular instrumental ties (instrumental guanxi), and guanxi as social-exchange networks of asymmetric transactions. Familial guanxi represents a

type of guanxi which people develop through familial/pseudo-familial interactions. People who are in the same group with familial guanxi are as in a big family and will provide resources for each other due to their familial/pseudo-familial obligations. Second, instrumental guanxi is based on the premise that guanxi can be built up through work or for functional reasons. Good guanxi with particular employees or a particular group is used to create a better opportunity or to gain some resource that could provide some advantage for work or for a project. This type of guanxi is concerned with more functional demands. Finally, guanxi understood as an asymmetric transaction introduces the idea that in the social-exchange network in guanxi it is not as easy to have a symmetrical exchange as an economic exchange. This type of guanxi, which can exist as familial or instrumental guanxi (Bian, 2002), will be discussed both in familial and instrumental guanxi.

In the analysis, through these dimensions with the discussions in the family and non-family businesses, I conclude that family businesses rely more on familial guanxi, while non-family businesses are mainly based on instrumental guanxi. I provide evidence and relevant extracts from the data to illustrate the effect of familial guanxi on family businesses and the influence of instrumental guanxi on non-family businesses. These discussions further demonstrate the different types of social networks in family and non-family businesses and also their influence on collective learning.

Besides illustrating the different types of social networks, this chapter also presents the specific characteristics of Chinese/Taiwanese social capital and the important role of guanxi in Chinese/Taiwanese society. In the last section, I conclude with the main

cultural effects of guanxi. This discussion might provide some insights into the specific characteristics of guanxi and its roots in Chinese/Taiwanese society. This chapter therefore not only illustrates the effect of guanxi on social interactions and collective learning but also provides some ideas for future studies of guanxi.

1.4.5 Chapter Six Learning and Innovation

After discussing the different social networks in family and non-family businesses, in this chapter I emphasise how different social networks affect knowledge accumulation and innovation. I use examples and data from my observations to illustrate different types of learning processes and knowledge accumulation. I find that family businesses, which have more intensive relationships, have relatively closed networks, while non-family businesses have rather loose relationships and relatively open networks. I analyse the evidence from these two types of network to depict the learning processes of the businesses. Family businesses which have intensive interactions are good for knowledge transfer, and non-family businesses which have flexible interactions benefit from knowledge transformation. I also combine the ideas of social capital and guanxi to provide a clearer and more comprehensive understanding of the learning processes and social interactions. Furthermore, through their learning process, I illustrate the innovation processes, presenting the effects of forms of learning and social interaction on knowledge innovation. Since family businesses have more sentimental/kinship relationships and obligations, their innovations are based on relatively conservative decisions. Non-family businesses, which are without familial/pseudo-familial obligations, have relatively flexible attitudes to product innovation. These phenomena regarding innovation which cover the effects of social

capital and guanxi on companies (with the influence on their social interaction and social network) will be discussed more comprehensively in this section. Finally, I evaluate the strengths and weaknesses of learning and innovation in these two types of social network. As each type of network has advantages and disadvantages, this evaluation, which points out their problems and benefits, could enable them to learn from each other.

To conclude, this chapter illustrates the learning and innovation process in different types of social networks (in family and non-family businesses) to further demonstrate the effect of social capital and guanxi on social interaction and collective learning. This chapter also evaluates their influence on learning and innovation in order to define their strengths and weaknesses. The evaluation not only enables me to provide a comprehensive understanding of learning and innovation in different social networks but also provides some insights for future improvement in each type of social network.

1.4.6 Chapter Seven Conclusions

In this chapter, I conclude the main findings and the integrated contributions of this thesis. The contributions and discussions focus on insights both for theoretical development and improvement in practice. I first stress again the findings in Chapters Four, Five and Six. This conclusion presents the main discussions and the relevant research topics of each chapter. Second, the integrated conclusions through the whole discussions in this thesis is also depicted. I point out the role and the function of social capital and guanxi in social interaction and collective learning. Social capital and guanxi, which act as the resource gate, can affect not only access to possible

opportunities but also dominate network interactions. Besides, I conclude the comparisons between family and non-family businesses mentioned in Chapters Four, Five and Six. As family and non-family are taken as two different social networks, the differences and comparison of these two types of businesses are concluded in this section.

Third, I integrate the theories of social capital, guanxi and organisational learning to demonstrate their relationship and the new insights discovered in this thesis. There are overlapping parts which connect and make them related (the details will be discussed in Chapter Seven). In addition, as this research also includes discussion of family businesses, in this section on theoretical contributions, I point out the possible implications of this thesis for the study of family businesses. Fourth, the practical implications, which also cover the comparison of smaller family and non-family businesses, are elaborated. This empirical research in smaller firms, which unveils some of their strengths and weaknesses, can facilitate their future development. In addition, since this research was done in the software and IC design sectors, I also include relevant information on the management differences found in my field work. This might help to provide some understanding of, and facilitate the future study of, these two sectors.

Furthermore, I discuss the limitations of this study, including the research design, the analytical tools used and the context for the data collection. These difficulties might limit the results of the research and may affects its reliability and validity, but they could also alert future researchers to possible problems. I specially point out the problem of using Nvivo with Chinese transcript and the limitations of recording

interviews with owner-managers and employees. Finally, there are some suggestions for future research. I suggest that future study could focus on two topics: learning in family businesses and organisational learning from internal social capital perspectives. I use evidence from relevant literature, databases and my empirical research to illustrate the possibility and necessity of doing research in those fields. These suggestions could help to overcome the deficit in academic research and also give some insights for further research. At the end, I provide a conclusion to illustrate the main contributions and developments of this thesis.

After this introductory chapter, the next chapter, the literature review, covers the relevant studies and theories that help to construct and facilitate this study.

Chapter Two Literature Review

2.0 Introduction

This chapter provides a literature review of the topics related to this study. Rather than giving a fully comprehensive review of these topics, my aim is to clarify the constructs and issues pertinent to the study and that guide the study. The review of literature starts with the introduction of the concepts of social capital and Chinese/Taiwanese guanxi. The first section will provide relevant knowledge of research on social capital and guanxi and also their influences on collective learning. Since this research is focused on internal interactions, the discussion of internal networks adopts the dimensions proposed by Nahapiet and Ghoshal (1998), namely the structural dimension, relational dimension and cognitive dimension. Besides, the inclusion of guanxi, which is social capital theory with a Chinese/Taiwanese perspective, can also add support to the idea of the importance of social relationships in Chinese/Taiwanese society. Some of the concepts included in guanxi can therefore facilitate the analysis of the effects of social interactions on collective learning.

Second, there is a section on organisational learning. Some indication of the theories of organisational learning, levels of learning and relevant research on organisational learning is used to present the importance of collective learning within organisations. I first consider the definition of organisational learning and current studies to provide a general idea of learning studies. I further include the work of Senge (1990), Huber (1991), Nevis et al. (1995), Crossan et al. (1999) and Kim (1993) to point out the

importance of collective learning in theories of organisational learning. All these scholars mention the importance of knowledge sharing and knowledge integration for achieving organisational learning. Absorptive capacity, which is significant in organisational development, competitiveness and innovation (Zahra and George, 2002; Lane et al., 2006; Easterby-Smith et al., 2008a), will also be discussed in this section.

Third, as this thesis is mainly focused on research in smaller family and non-family businesses in Taiwan, the features of the management and the characteristics of SMEs (small and medium enterprises) will be described in this section. I also refer to relevant studies on learning in SMEs (Thorpe et al., 2005; Chaston et al., 2001) to illustrate their specific learning characteristics, which presents the significant effect of owner-managers and internal relationship on collective learning. Finally, to address the concept of innovation, which could be affected by knowledge exploration and exploitation (Harryson et al., 2008; Basadur and Gelade, 2006) and the structure of social networks (Nahapiet and Ghoshal, 1998; Harryson et al., 2008; Coleman, 1988), is also included in the discussion to illustrate the influence of social networks on collective learning. The literature review will also provide background on the context of innovation in Taiwan. Since Taiwan has limited resources, due to its smaller domestic market, this introduction to the industrial environment in Taiwan is used to facilitate a more comprehensive understanding of the level of innovation in Taiwanese SMEs.

2.1 Social Capital and Guanxi

In this section, I would like to explain and illustrate the context of social capital and guanxi. This discussion will start from the nature of social capital and go on to provide a general idea of social capital. Social capital is associated with a long-term and continuous relationship consisting of obligations arising from gratitude, respect and friendship (Bourdieu, 1986), with a basis of trust, cooperation and collective action (Jacobs, 1965). It is a kind of capital that is accumulated and developed over time through durable social interactions.

Secondly, this section is concerned with a presentation of the distribution of social capital. The distribution is used to understand the features of social capital, especially in terms of learning. As social capital can exist in different forms and social networks (Bourdieu, 1986; Putnam, 1995), illustrating the dimensions of social capital which will clarify the concept of social capital and also facilitate the relevant discussions of social capital and collective learning in this thesis. In this I mainly follow the dimensions suggested by Nahapiet and Ghoshal (1998), namely, the dimensions of structural links, relational links and cognitive links.

Finally in the last part of this section, guanxi, a form of social capital theory from a Chinese/Taiwanese cultural perspective, will be discussed. As the empirical research for this thesis was undertaken in Taiwanese companies, it is necessary to discuss guanxi in order to complement western social capital theory, which is deficient in this case because of cultural differences. This could also benefit the analysis of the

empirical data, providing a more comprehensive understanding and also presenting the differences between Western social capital and Chinese/Taiwanese guanxi.

2.2 The Nature of Social Capital

The term 'social capital' was initially introduced in community studies, highlighting the importance of the networks of neighbourhoods which can provide strong and cross-cutting personal relationships, which have developed over time and which contribute to trust, cooperation and collective action in communities (Jacobs, 1965:60). Social capital then is the resource available to a group of actors as a function of their location in the structure of their social relations (Adler and Kwon, 2002). Nahapiet and Ghoshal (1998) define social capital as 'the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit'. Social capital therefore comprises the network and the assets that may be mobilised through that network (Bourdieu, 1986; Burt, 1992; Nahapiet and Ghoshal, 1998).

Besides, Burt (1992) notes that, unlike other forms of capital, social capital is owned jointly by the parties in a relationship and no single player is capable of having exclusive ownership rights. As the benefits and resources are situated in social relationships, the accumulation of social capital resides in continuous social interaction and it cannot be owned by any group member.

2.2.1 Internal Links

In a company, there are internal links and external links which construct social capital in that company (Suseno and Ratten, 2007; Yli-Renko et al., 2001; Meeus et al., 2001; Ireland et al., 2002). However, in this thesis, the emphasis is on internal links, so the literature review in this section will focus on discussing the context of internal links. Internal links include the employee's social interactions through personal or inter-structural connections (relational and structural links). Thorpe et al. (2005) point out the importance of internal routines in the studies of knowledge use in SMEs. Also, Harryson et al. (2008) illustrate the crucial influence of social networks on knowledge application. They also note that relationships and networks within the organisation can influence knowledge exploration and exploitation (Thorpe et al., 2005; Harryson et al., 2008).

Figure 2.1 presents the formulation of social capital which is constructed by internal and external links. In order to distinguish between internal and external networks, I understand external networks as the relationship with shareholders, suppliers, customers and competitors (Hoffman et al., 1998; Lipparini and Sobrero, 1994; Yli-Renko et al., 2002; Ireland et al., 2002), and it is the interactions between owner-managers and employees which constitute the internal links. However, as this study is mainly focused on the influence of internal interactions on collective learning, external links are only provided to give some insight into organisational resources and the elements of social capital. The in-depth research and discussion of social interactions and collective learning concentrates on internal links.

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│ │ Internal links:     │ │
│ │ Relational links;   │ │──────┐
│ │ Structural links;   │ │      │
│ │ Cognitive links     │ │      │
│ └─────────────────────┘ │      │
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│ │ External links:     │ │──────┘
│ │ Shareholders;       │ │
│ │ Suppliers;          │ │
│ │ Customers;          │ │
│ │ Competitors         │ │
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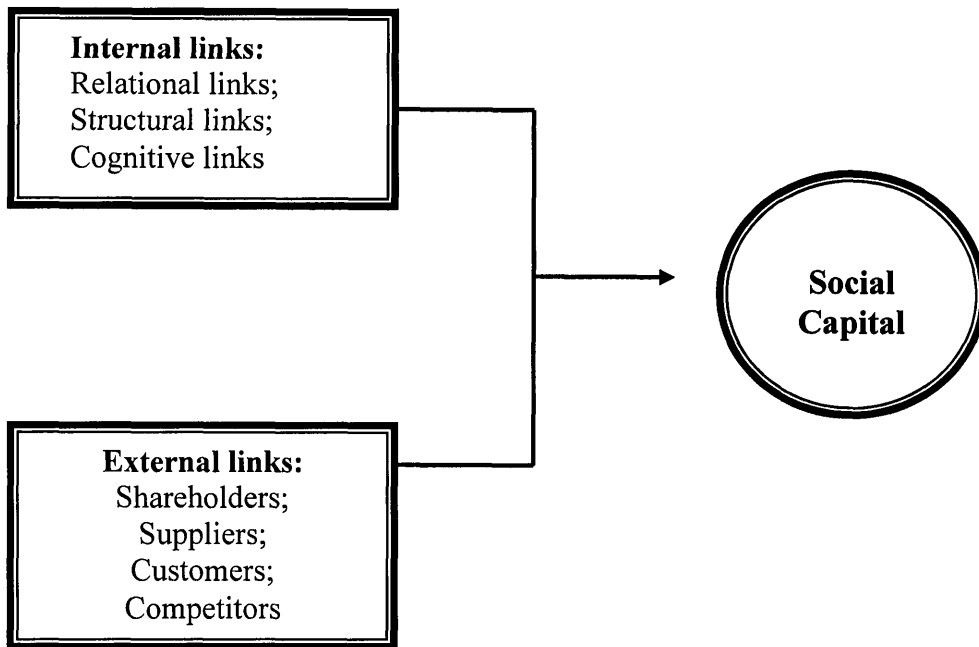
-Figure 2.1 Internal Links, External Links and Social Capital

2.2.2 Social Capital from Internal Links

In the distribution of social capital within internal links, I use the dimensions identified by Nahapiet and Ghoshal (1998) to support my discussion. Nahapiet and Ghoshal (1998) focus on the creation of intellectual capital from the development of social capital, and their views of social capital, based on the concept of information accumulation (intellectual capital), support the main idea of this thesis (the connection between social capital and collective learning). In the following section, the presentation of the dimension of social capital will mainly follow Nahapiet and Ghoshal's research, but with contributions from other relevant literature.

Relational and Structural Links

2.2.2.1 Relational Links

Trust

One of the crucial elements of social capital in relational links is *trust* (Adler and Kwon, 2002; Jacobs, 1965; Fukuyama, 1995; Putnam, 1995; Tyler and Kramer, 1996). This area of research indicates that people are more willing to share things and engage in social exchange and cooperative interaction when they have high levels of trust. Trust can create people's confidence to believe in others. Mishira (1996) mentions four dimensions of confidence in trusting people which could indicate people's willingness to join a group. The four aspects are: 1) belief in the good intent and consideration of exchange partners (Pascale, 1990; Ring and Van de Ven, 1994); 2) belief in group member's competence and capability (Sako, 1992; Szulanski, 1996); 3) belief in group member's reliability (Giddens, 1990); 4) belief in perceived openness (Ouchi, 1981). Nahapiet and Ghoshal (1998) then suggest that trust could open up access to people for value creation and the exchange of knowledge. Especially with uncodified messages, what counts is the trust residing in the quality of the personal relationships that bind parties together through shared values and expectations, rather than the intrinsic plausibility of the message (Boisot, 1995; Nahapiet and Ghoshal, 1998: 255).

Trust therefore acts as a precondition for gaining access to social exchange. It does not matter whether it is trust that lubricates cooperation or cooperation itself that breeds

trust (Nahapiet and Ghoshal, 1998), both need a period of time to generalise norms of cooperation which could facilitate and increase the willingness to engage in social exchange (Putnam, 1993). In relational links, trust might be created from one of the beliefs to the group (Mishira, 1996) or the norms developed through tacit interactions (Putnam, 1995) and is indeed the key element in opening up people's communication and knowledge exchange channels.

Norms

Norms represent a degree of consensus in the social system (Coleman, 1990; Nahapiet and Ghoshal, 1998: 255) and can be found in actions but are actually held not by a single actor but by other people (Coleman, 1990). They are a kind of invisible rule which is hard to explain and describe with single action or a word. They can combine people's thinking and then contribute to a sort of group action that constitutes people's expectations and understanding (Kramer and Goldman, 1995). For example, if a company has a norm of respecting senior employees (defined by age and position), people in this company might have a tacit tradition that they will listen to opinions and orders from senior people. This norm therefore contributes to the type of social interaction that company members can expect and, therefore, they can understand situations and possible reactions in their social interactions because they understand and support the norm.

An effective norm can facilitate the function of teamwork and help group knowledge exchange (Starbuck, 1992). In a group with effective norms of openness and learning together, people will learn together more efficiently as a result of taking learning

together as a routine. Norms therefore become an important feature in collective learning. If a group has appropriate norms to guide and control people, people will be motivated to action through tacit power (Coleman, 1990).

Nahapiet and Ghoshal (1998) suggest that norms of co-operation can establish a strong foundation for the creation of intellectual capital, since the 'bound expectations' could be a significant influence on exchange processes, opening up access to parties for the exchange of knowledge and ensuring the motivation to engage in such an exchange (Putnam, 1993; Nahapiet and Ghoshal, 1998:255). Norms of co-operation then could facilitate knowledge exchange and have an important effect on group work and knowledge development. In relational links, norms which could tacitly dominate people's action (Coleman, 1990) are an important factor in social relations. With effective norms of co-operation, openness and teamwork, it is more possible to have a working atmosphere which emphasises co-operation rather than competition, and open disclosure of information rather than a closed network (Starbuck, 1992; Nahapiet and Ghoshal, 1998:255).

To conclude, norms in a company might be present in the existing consensus in the social system (for example, shared histories or national backgrounds) or in the choreographed norms developed intentionally by owner-managers. Both of these can affect social interaction within the company and will be explored in Chapter Four of this thesis.

Obligation and Expectation

Obligations represent a form of commitment or duty to undertake some activity in the future (Nahapiet and Ghoshal, 1998). Obligations, which operate as a 'credit chip' held by A to be redeemed by some performance by B (Coleman, 1990; Bourdieu, 1986; for 'credit chip' see Nahapiet and Ghoshal, 1998: 255), are developed with expectations in particular relationships. Obligation and expectation is an exchange action that stimulates people's co-operation (Fairclough, 1994). As people have a commitment (obligation) to a group or a relationship, they will have expectations from their commitment to this relationship; conversely, some relationships start from satisfied expectations and the consequent willingness to enter into obligation. This concept is like the idea of 'give and receive' in guanxi theory (Bian, 2002). It represents the credential concept in social capital and the tacit power which undertakes and maintains relational links (Nahapiet and Ghoshal, 1998: 242).

Obligation and expectation could be the most obvious characteristics of the concept of 'capital' in social capital theory, as they illustrate ideas regarding 'exchange' and 'trade'. Some resources and benefits from the relationship which can be used and exchanged between group members might result from the function of obligation and expectation. Nahapiet and Ghoshal (1998) note that obligation and expectation can influence both access to parties in order to exchange and combine knowledge and also the motivation to combine and exchange such knowledge. In this thesis, I will discuss the effect of social capital on collective learning and the influence of obligation and expectation on knowledge exchange to demonstrate the importance of this element in social relationships and collective learning.

Identification

'Identification is the process whereby individuals see themselves as one with another person or group of people. This may result from their membership in that group or through the group's operation as a reference group' (Nahapiet and Ghoshal, 1998: 256).

Members who have high identification with a group will take the values of the group or other group members as the reference which could affect their decision and points of view. Kramer et al. (1996) point out that identification with a group could strengthen concern for collective processes and outcomes. As the group members identify with the values of the group or with other group members, they can be involved with and understand group decisions and collective advantages. Thus, identification is also a form of access or opportunity for people willing to work corporately. The salient group identification may increase the perceived opportunities for exchange and also enhance the actual frequency of cooperation (Lewicki and Bunker, 1998; Nahapiet and Ghoshal, 1998: 256). This could facilitate knowledge exchange and collective learning in the group. Nahapiet and Ghoshal (1998) then take identification as a resource influencing both the anticipation of value to be achieved via combination and exchange and the motivation to combine and exchange knowledge.

Identification, which can solidify people's group values and increase group members' cooperation, is an important vehicle for learning collectively. A clear identification could help a group to have collective aims and goals, although it might also raise

barriers between people through contradictory identifications, and would therefore block knowledge sharing and learning between them (Child and Rodrigues, 1996; Simon and Davies, 1996). Thus identification is important in collective learning in that it can facilitate communication and collective activity (for example, collective learning) within the group but set up a boundary between groups with different identifications. The relational links which would be influenced through different densities of identifications could contribute to different types of networks and collective learning. Identification therefore constitutes a significant factor in social capital for research into collective learning.

2.2.2.2 Structural Links

The other type of social capital is constructed from structural links. Nahapiet and Ghoshal (1998) categorise this kind of social capital as network ties, network configuration and appropriable organisation. I adopt their categorisation with some amendments to support my empirical research. The categorisation of structural links in this study is therefore: network structure, network ties, and appropriable relationship.

Network Structure

Appropriate network structures can contribute to efficient information exchange and knowledge communication; the density, connectivity and hierarchy of a network structure is associated with flexibility and ease of information exchange (Nahapiet and Ghoshal, 1998; Ibarra, 1992). Burt (1992) notes that network structures could affect information resources and places of useful knowledge flow. He especially notices the

influence of density of network structure, arguing that a sparse network, with few redundant contacts, provides more information benefits (Nahapiet and Ghoshal, 1998: 252) than a dense network. A dense network might require too much time spent on relationship contacts and its close interaction also results in less diversity of exchanged information. As Nahapiet and Ghoshal (1998) point out, diversity of knowledge is important in terms of accumulating intellectual capital, for which it is necessary to have knowledge from disparate sources and disciplines (Nahapiet and Ghoshal, 1998: 252) to enrich the knowledge combination. However, a sparse and loose network can impede knowledge transfer and it is necessary to have some more redundant contacts (Hansen, 1996; Harryson et al., 2008). Especially for non-codified knowledge (Hansen, 1996) and the development of cross-functional knowledge and absorptive capacity (Cohen and Levinthal, 1990), loose and dense relationships therefore both have their advantages and disadvantages.

As the aim of this thesis is to illustrate the relationship between social networks and collective learning, the discussion is therefore devoted to explaining and presenting how the different network structures affect different types of collective learning and innovation. According to the relevant literature, the different density of network structures could contribute to different knowledge transfer and information diversity (Burt, 1992; Harryson et al., 2008; Hansen, 1996). Comparison of different densities of structure (loose and dense networks) with their collective learning could therefore allow us to present different stories of learning and innovation processes.

Network Ties

It is network ties that construct the network structures and provide access to social capital and channels for the resources (Nahapiet and Ghoshal, 1998: 252). Coleman (1988) stresses that information which is costly to gather relies on social relations to access those information channels. These channels within the social structures are like 'ties', which bind the relationship and construct the network structure. These network ties could therefore influence what kinds of knowledge and resources can be obtained. Different network ties could lead to different flows of knowledge and also represent different distributions of information, which is beneficial in reducing the amount of time and investment required to gather information (Coleman, 1988; Burt, 1992; Lin, 2001).

Burt (1992) suggests that there are three forms of information benefit from proper social network ties: access, timing and referrals. *Access* means that network ties could represent different knowledge resources and people who are involved in these ties understand who can receive and use knowledge. It identifies the information and resource process which benefits the efficiency of knowledge application. Since people have initial knowledge of the distribution of the network ties, it will facilitate further knowledge and information exchange (Burt, 1992). Secondly, *timing* refers to the ability of personal contacts to provide premier information sooner than it becomes available to other people without such contacts. Through developed network ties and special relationships, it could provide privileged knowledge and resources which could then enhance the anticipated value of exchanged information (Burt, 1992). Especially for commercially oriented research, the ability to get early information so

as to enter the right market could determine success (Nahapiet and Ghoshal, 1998). The last form of information benefit from network ties is *referrals*. This means that network ties not only provide the access to knowledge but also their connection processes present network members with the opportunity of gaining knowledge (Burt, 1992). Information on the opportunities available in the network could then facilitate knowledge exchange and combination between different ties. Besides, some network ties may have the reputation of being high quality knowledge resources as a result of their good communication and interactions within the ties. A good reputation could increase people's willingness to exchange knowledge and enhance the anticipated value of knowledge exchange and combination (Putnam, 1993).

In this thesis, as the study focuses on the influence of social relationships on collective learning, network ties which have a considerable effect on network construction and opportunity of resource have to be discussed. Network ties, which could provide access and opportunity for knowledge resources (Burt, 1992; Putnam 1993) and affect the motivation and the anticipated value of knowledge exchange and combination (Nahapiet and Ghoshal, 1998), are recognised as key elements in the discussion of collective learning through social structures.

Appropriable relationship

'Social capital developed in one context, such as ties, norms, and trust, can often (but not always) be transferred from one social setting to another, thus influencing patterns of social exchanges' (Nahapiet and Ghoshal, 1998: 253). Fukuyama (1995) explains this kind of phenomenon via the explanation of the transfer of trust from family and

religious affiliation into the work situation. Some personal relationships such as between classmates and schoolmates could influence business information exchange (Coleman, 1990). A relationship created for one purpose (for example, classmates at university) could have other influences and provide resources in other social networks (for example, if the alumni start an organisation or the family group run a business) (Putnam, 1993). These appropriable relations could then affect the patterns of network structure. Further influences are more related to relational and cognitive networks (Nahapiet and Ghoshal, 1998) but it is also necessary to take account of appropriable relationships in a structural network since the knowledge exchange in some parts could be affected by an appropriable relationship from other social structures (Putnam, 1993).

2.2.2.3 Cognitive Links

In Nahapiet and Ghoshal's paper (1998), they also suggest that cognitive links act as part of social capital. They believe some knowledge development or innovation comes from the combination of social exchange and information. This social exchange is based on the sharing of context between parties which facilitates their communication and knowledge exchange (Boisot, 1995; Boland and Tenkasi, 1995). This kind of relationship or links is mainly constructed through two ways: (1) the existence of shared language and vocabulary; and (2) the sharing of collective narratives (Nahapiet and Ghoshal, 1998).

Shared language and codes

Language is a tool to facilitate people's social relations and it has a direct function in sharing information, exchanging knowledge and asking questions (Nahapiet and Ghoshal, 1998). People who speak a common language can construct relationships easily, to the extent that they can gain access to each other's information and networks. Conversely, people who do not understand each other's language will have barriers to understanding each other and this will keep people apart.

Nahapiet and Ghoshal (1998:253) also mentioned that language and codes can affect people's perception. They noted that "codes organise sensory data into perceptual categories and provide a frame of reference for observing and interpreting our environment." Language or codes can therefore filter out the activities for which terms do not exist in the language and filter *in* the events for which terms do exist. This leads people who share a common language to have a common conceptual apparatus for evaluating the likely advantage of information exchange and combination (Nahapiet and Ghoshal, 1998). Shared language will make people have similar concepts which can be exchanged, and thus strengthen their social relationship.

Also, a shared language enhances combination capability (Nahapiet and Ghoshal, 1998). Knowledge creation is based on the development of new concepts and information (Nonaka and Takeuchi, 1995) and this development mainly relies on their sharing of language (Boland and Tenkasi, 1995). A shared vocabulary enables the combing of information and it also influences both perspective-taking and perspective-making in knowledge creation (Nahapiet and Ghoshal, 1998). Thus, as

people use a common language, their ideas and information can be combined more easily, which then facilitates knowledge development and creation.

Shared narratives

In addition, people who have shared narratives may also strengthen their social relationships and their knowledge exchange. Nahapiet and Ghoshal (1998:254) noted that "the emergence of shared narratives within a community enables the creation and transfer of new interpretations of events, doing so in a way that facilitates the combination of different forms of knowledge, including those largely tacit." The shared narratives include myths, stories and metaphors which provide rich information in creating, exchanging and preserving rich sets of meanings (Clark, 1972). Furthermore, Bruner (1990) proposed two different modes of cognition: (1) the information or paradigmatic mode and (2) the narrative mode. The information or paradigmatic mode suggests a process of knowledge creation based on rational analysis or argument; the narrative mode is based on synthetic narratives, such as fairy tales, legends, stories, and metaphors. These shared stories or narratives might seem to be unnecessary or insignificant details, but they facilitate the exchange of tacit knowledge and experience (Orr, 1990). Thus, through the sharing of narratives, knowledge development can be improved, especially with regard to tacit information.

Cognitive links, which influence social relationships through shared language, codes and narratives, demonstrate knowledge exchange and information sharing. I think these could take the form of both structural and relational links. A cognitive link is like a vehicle which facilitates knowledge exchange and strengthens communication

within a group. People within the group will be closer, and they will develop knowledge more effectively, because they have a shared language or codes. Also they might understand some exclusive tacit information through their sharing of narratives. Thus, in the discussion chapter (Chapter Four), I will analyse cognitive links both in structural and relational forms. This will present the importance of cognitive links both in social interactions and in collective learning.

In this study, as the empirical research is conducted in family and non-family businesses, the discussions of their social relationships could demonstrate the different social resources in family and non-family businesses. Understanding the feature of structural, relational and cognitive networks should then facilitate and support the study of different social networks and knowledge aggregation in family and non-family businesses.

In the next section, I provide further discussion of social capital from the cultural perspective of Chinese/Taiwanese guanxi. As the study of guanxi identifies some different perspectives on social capital (Yang, 1994; Yan, 1996; Bell, 2000; Hwang, 1987; Bian, 2001; Lun So and Walker, 2006), it is necessary to consider guanxi in order to study social capital in Taiwanese companies.

2.3 Chinese/Taiwanese Guanxi

Relevant studies note that social capital is accumulated through the process of people's interactions and relations, and that with cultural differences it is possible to

develop different forms of social capital (Lin, 2001; Bourdieu, 1986). Guanxi, which is a practice that demonstrates the special characteristics of social capital in Chinese culture and the lifeblood of Chinese business communities, is also recognised as a necessary concept for the discussion of social relationships in Chinese/Taiwanese societies (Lin, 2001; Bian, 2001; Fei, 1992; Hwang, 1987; Jacobs, 1979). Currently, research on guanxi has been discussed in several business studies, which present guanxi as significant mediator in Chinese/Taiwanese firms, especially on power and political skills (Zhung, 2010; Wei et al., 2010) and business ethics (Hwang et al., 2009; Zhu, 2009). Some have also taken guanxi as a bridge to information sharing and creativity (Ramasamy et al., 2006; Chen, 2009). In this study, I will take guanxi as a mediator between social relationships and learning, illustrating how knowledge is being communicated through different types of guanxi.

According to the relevant literature, the development of guanxi is closely related to Confucianism and the long period of imperial rule (Hwang, 1987; Yan, 1996; Yang, 1994; Bell, 2000). Thus, to illustrate the main theories of guanxi, it is important to explain the effect of Confucianism and the history of the imperial era. In the following section, I will introduce the aspects of Confucianism which have influenced social structures in Chinese/Taiwanese society in order to provide initial ideas of the formation of guanxi, and then illustrate the main theories of guanxi which are relevant to this thesis.

2.3.1 Confucianism

In guanxi studies, most researchers claim that the moral principles (wu-lun) stated by Confucian teachings are the basis of the development of guanxi (Hwang, 1987; Yang, 1994; Yan, 1996; Bell, 2000). Confucianism suggests that human relationships should be ruled by five moral principles (wu-lun). These are 'the love between father and son'; 'the obligation between emperor and liegeman'; 'the different responsibilities between husband and wife'; 'the respect between seniors and juniors'; and 'trustworthiness between friends'. Scholars (such as Confucius and Mencius) believed that moral principles should be circulated, founded on the family. If people understand that they have a responsibility of love, care and responsibility with and for their family, they will provide respect and be trustworthy to their colleagues and friends. Furthermore, they will have obligations to the emperor (Confucius, 2006).

Confucianism is a school of thought that spread over a period of three thousand years. The society of that era (around 770 BC - 221 BC, Appendix 1.) was feudal and the emperor was the most important/powerful man. The moral principles of the social structure functioned through loyalty and obedience to obligations of the empire to facilitate the emperor's control of people. In contemporary society, the emperor's equivalent can be understood as someone who has a strong power or influence over you (for example, owners over employees). This sort of power from authority still dominates Chinese/Taiwanese society and has become the concrete foundation of guanxi (Fei, 1992; Hwang, 1987; Yang, 1994; Bell, 2000). The chart below shows the concentric relationship of moral principles (wu-lun).
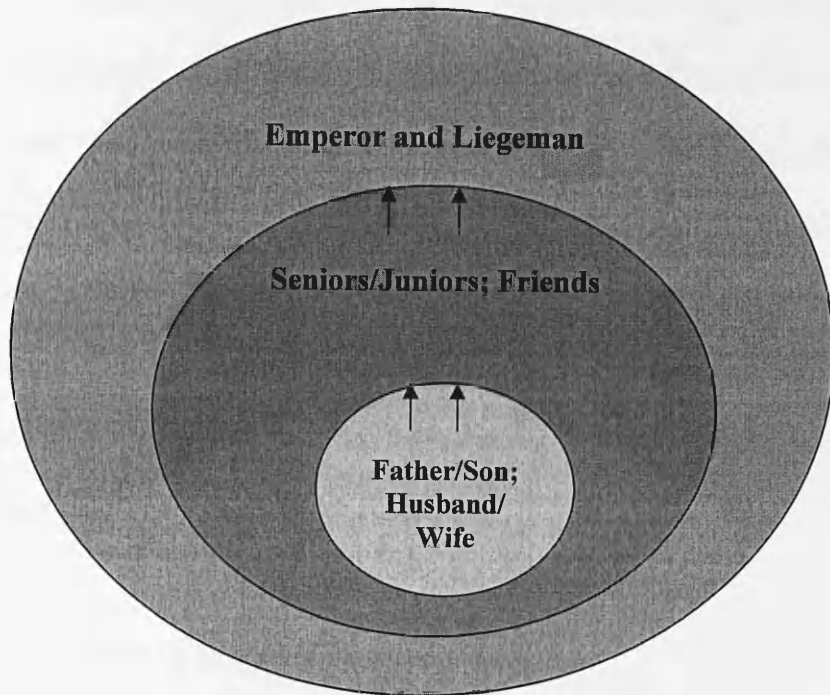
- Figure 2.2 Concentric Circles of Confucianism -

As wu-lun emphasises, social relationships start from the relationship within the family. Social relationships in Chinese/Taiwanese society are then bound together in close, pseudo-familial relationships. Among Chinese people, the profound relations between masters and apprentices, teachers and students, are often interpreted as father-son relations; close friends can address each other as 'brothers' or 'sisters' (Liang, 1992). These close relations tie people together in a family-like relationship. Guanxi is based on this kind of relationship with family sentiment and obligation that is often insuperably dominating the relationship (Bell, 2000).

In studies that discuss how guanxi influences contemporary social networks, there are several models that explain this in different ways. Some studies focus on familial effects and others the functional benefits. In Bian's (2001) research on guanxi, he summarises three models as the theoretical basis of the nature of guanxi, which are

'guanxi as the web of extended familial obligation'; 'guanxi as exchange networks of particular instrumental ties'; and 'guanxi as social-exchange networks of asymmetric transactions'. The findings of his research, which provides theoretical models and empirical research to demonstrate the importance of guanxi in Chinese social interactions, can facilitate research into social interactions in Taiwanese companies. Thus, in this thesis I will use these three models to analyse my empirical data and to present the special characteristics of Chinese/Taiwanese culture in social structures and social interactions.

2.3.2 Guanxi as the Web of Extended Familial Obligation

In this model of guanxi, researchers note that the concept of guanxi begins with the familial relationship (Liang, 1986; Fei, 1992; Lin, 1998). These scholars believe that guanxi is a network that extends from familial obligations. Liang (1986) claims that the familial relationship in Chinese culture is ethical in nature (an effect of Confucianism), combining both sentiment (qing) and obligation (yi). Bian (2001:276) states that "in interaction among family members, sentiments and obligations complement and reinforce each other, creating a harmonious structure that resists confrontation and encourages cooperation within the family." This kind of familial sentiment and obligation therefore influences Chinese people's social interactions. People have been educated and influenced by their family members since they were born to have strong relationships with the family members, and the ethical relations of familial sentiment and obligations are then extended into their social behaviour (Liang, 1986). This claim corresponds with the wu-lun of Confucianism in that both have the concept of starting from the family and extending to the whole society. This

demonstrates the importance of familial relationships in Chinese/Taiwanese culture and the close relationship between family members. Also, because this kind of social structure and interaction is passed down via the family, it is difficult to change even under different political regimes (for example, Hong Kong before 1997, Taiwan, and mainland China during the Cultural Revolution: King, 1988; Fei, 1992). The influence of familial sentiment and obligation still dominates social interactions in Chinese/Taiwanese society.

Familial sentiment and obligation then contribute to the phenomenon that people tend to have close relationships with their friends, colleagues, and senior people, etc., with intimate interactions similar to those with family members (Lin, 1998). Lin (1998) conceptualises this phenomenon as *pseudo-families*. As familial obligations and sentiment shape the communities extending from the family and kinship, people are likely to use 'pseudo-familial' interactions to tie the relationship together. One of the most general and obvious indications is intimate address, by which people who have close relationships will usually call each other 'brothers' or 'sisters' and children will call their parents' friends 'uncles' or 'aunts' (Bian, 2001). People are therefore used to constructing their social networks through pseudo-familial sentiment and having pseudo-familial relationships in their social networks. This also demonstrates how group life operates in Chinese/Taiwanese society. Since people structure their social networks with the initial attitude of developing a pseudo-family, a social group tends to have close relationships and group members treat each other as family members.

Besides familial sentiment and obligation, Fei (1992) also emphasises that the ethical relations of familial sentiments and obligations are ego-centric. This could be the

sharpest difference between guanxi and Western social theory which emphasises that social capital is owned jointly. In a guanxi network, it is the individual member of a family group with the highest reputation who affects the decision making and also the access to resources from external connections (Fei, 1992, Liang, 1986; Yang, 1994). It is individual reputation that mobilises social resources from guanxi networks (Bian, 2001).

This emphasis on individual reputation may be attributed to the effect of the imperial era and the system of Confucianism, with its idea of obeying and relying on the emperor (individual power). The period of imperial authority and the embedding of Confucianism in education in Chinese/Taiwanese society could be factors in the high degree of reliance on individual power. This emphasis on individual influence would then make guanxi development strongly reliant on an individual's reputation and resources.

In the development of guanxi, Bian (2001) notes the new term 'guanxi capital', arguing that the addition of the word 'capital' presents more clearly the idea of 'developing' and 'cultivating' social resources. King (1988) illustrates guanxi development through the idea of giving and receiving 'face' (mian-zi). Mian-zi, which literally means 'face' in Chinese, is relevant to the recognised capability of individual reputation and resources. For example, if one person (Mr. B) would like to help or provide resources to the other (Miss A), it means that Mr. B gives Miss A face (mian-zi) and also Mr. B recognises Miss A's reputation. Bian (2001) then uses the term 'guanxi capital' to demonstrate this 'face work (face giving and receiving)' and emphasise the idea of 'developing' self-guanxi and self-reputation.

This model of guanxi emphasises that the development of guanxi capital is based on familial/pseudo-familial sentiment and obligation. As the guanxi network involves personal reputation, one might fulfil the moral and ethical obligations in order to meet one's familial or pseudo-familial (family-centric) expectations. This resource exchange and sharing is based on the recognition of familial/pseudo-familial sentiment. Furthermore, as people have strong sentiment and close relationships with the group, they will then have pseudo-familial obligations to the group. This pseudo-familial obligation will also mobilise resource exchange, since there will be a strong commitment and responsibility to support group members just as much as to help family members.

Thus, due to the sentiment of pseudo-familial relationship, guanxi can sometimes overcome social obstacles. For example, Mr. C may get a job without the need for an interview simply because his father has a very close personal relationship with the employer. This type of guanxi, which is based on familial/pseudo-familial sentiment and obligation, can sometimes affect important decisions through tacit influence. To have good sentimental guanxi is therefore necessary in Chinese/Taiwanese social interactions and also represents an important method of gaining resources.

2.3.3 Guanxi as Exchange Networks of Particular Instrumental Ties

Secondly, guanxi could consist of exchange networks of particular instrumental ties (Bian, 2001; Walder, 1986; Hwang, 1987). In this concept of guanxi, different from the previous model focused on familial/pseudo-familial sentiment and obligation, the benefit of favour exchanges is emphasised. Unlike sentimental guanxi, this type of

guanxi is developed through instrumental use and the relationship starts mainly because of the resources embedded in it (Hwang, 1987; Yang, 1994). Sentimental guanxi usually builds sentimental relations first and then looks for benefits or resources from an existing relationship, while instrumental guanxi is initially developed for resource exchange and is usually for work-related connections (Walder, 1986). Walder (1986) concludes that there are three kinds of particular instrumental ties found in Chinese society, which are: the relationship between government and business owners or project planners; the relationship between party officers and political activists; and the relationship between production supervisors and employees. Walder's research indicates the importance of personal connections in Chinese society. A good relationship with government can facilitate complex applications for new products or obtain updated information on new government policy (Walder, 1986). In some cases, a good opportunity will only be revealed to special connections. A political activist who wants to have a good position in a political party must show his loyalty and maintain a good relationship with political officials in order to have better career opportunities. Production workers also need to have a good relationship with their supervisors in order to receive favourable work assignments and performance evaluations. Thus, in this type of guanxi, the relationship is developed for instrumental purposes and it is the resources and benefits that exist in the relationship that motivate people to develop instrumental guanxi (Walder, 1986; Bian, 2001).

Relevant research also describes the importance of individual reputation. Walder (1986) provides examples of special connections that all emphasise personal connections. It is the owner, the particular officials and the supervisors that dominate the opportunities for access to favourable resources. This could correspond to

sentimental guanxi and demonstrates the importance of individual reputation in Chinese/Taiwanese networks. Yang (1994) and Hwang (1987) further argue that it is the reciprocity of individual reputation that binds the social network ties in Chinese/Taiwanese society. As mentioned previously, guanxi theories emphasise the 'give and receive' of face (mian-zi) in social interactions, the reciprocity work which could be understood as the face work that is representative of social interactions in guanxi (Hwang, 1987; Yang, 1994). No matter whether it starts from sentimental bases or instrumental bases, individual reputation plays an important role in Chinese/Taiwanese social interactions.

2.3.4 Guanxi as Social-exchange Networks of Asymmetric Transactions

Lin (1998), who provides a new conceptual model that combines the previous two models, argues that guanxi is a social-exchange network of asymmetric transactions. He argues that both sentimental guanxi and instrumental guanxi have the characteristics of asymmetric transactions. He points out that the most dramatic difference between economic exchanges and social exchanges is between symmetric transactions and asymmetric transactions. Economic exchange focuses on the short-term relationship where the exchange is obvious and can be measured easily to demonstrate the equal nature of the exchange transaction. In contrast, social exchange usually occurs in a long-term relationship where it is hard to measure the value of every single interaction (Lin, 1998). For example, Mr. A introduces the senior manager to Mr. B. This seems of no immediate benefit to Mr. B, but it provides Mr. B with access to contacts with the senior manager. This connection may help Mr. B have more opportunities to get resources. A social interaction which is not for immediate

use but is for access to future opportunity shows the character of an asymmetric transaction of guanxi (Lin, 1998; Bian, 2001). A simple or single interaction sometimes means a further requirement for favour exchanges. Also, in Chinese/Taiwanese society, someone who has more access to resources will be recognised as having a high social reputation (Bian, 2001). It is therefore very important to maintain current access to resources and also to explore new resources. This will influence people to try to maintain their social connections and, by providing access, to look forward to developing their personal reputations.

Bian (2001:277) therefore argues that both in sentimental guanxi and instrumental guanxi, the face work actually mean access to exchange. In Bian's reinterpretation, 'face giving means lending access to connections, and face receiving means getting access to connections.' His argument focuses on the benefits of providing access in face work and shows the nature of asymmetric transactions in guanxi since it is hard to define how much resource and what benefit will be brought about by the reception of access.

Through the introduction (above) and the discussions of different types of guanxi, we can now understand that guanxi is developed on sentimental bases or for instrumental uses. As a result of long-term relationships and continuous interactions, social interaction usually takes place in the context of asymmetric transactions and it is hard to define the benefits of each favour exchange.

In order to provide a comprehensive understanding of Chinese/Taiwanese social capital in this thesis, the concept of guanxi can facilitate further discussion of my

empirical data from Taiwanese companies. In the 'findings and discussions' chapter (Chapter Five), I will discuss the influence of guanxi on learning and other implications. The analysis will distinguish from sentimental and instrumental guanxi in different social networks (family and non-family businesses). The discussion of guanxi can then not only remedy the deficiency of western social capital theory for analysing Chinese/Taiwanese companies but also provide further implications for learning and social capital theories.

As the aim of this thesis is to present the influence of social capital on collective learning, it is necessary to understand relevant research on organisational learning. The next section therefore includes three sub-sections: definition and current studies of organisational learning, levels of organisational learning and absorptive capacity.

2.4 Organisational Learning

The early literature on organisational learning was based on the ideas of organisational behaviour within the field of organisational structures, organisational strategy or organisational adaptation (Cyert and March 1973; Daft and Huber 1987). These studies indicated that organisational learning has the function of improving information communication and enhancing adaptation to the environment. In recent years, organisational learning has become a more versatile concept. Organisations, just like individuals, have the ability to demand new knowledge and improve their future performance through their existing experience (Argyris and Schön, 1996). Easterby-Smith et al. (2000) also point out that research on organisational learning

ranges from emphasising organisational structures and systems (Brown and Duguid, 1991; Wenger, 1998; Nicolini and Mexnar, 1995) to substituting this with an understanding of individuals as social beings who construct their knowledge from social interaction within specific socio-cultural and material settings (Edmondson, 1999). This change has provided the rationale for socially oriented approaches to the understanding of learning and knowing (Easterby-Smith et al., 2000). The elements of constructing organisational learning then are not only dominated by organisational structure but also a result of social interaction and individual cognition.

In current studies, research has started to recognise the importance of power and politics within organisational learning processes (Easterby-Smith et al, 2000; 2008) and also the effect on knowledge transfer and knowledge development of boundaries arising from organisational structures or social interactions (Carlile, 2002; 2004; Easterby-Smith et al. 2008; Pérez-Nordtvedt et al., 2008; Harryson et al., 2008; Lervik et al., 2008). These studies demonstrate the importance of social interactions and also the effect of organisational structures. As boundaries can be built in terms of social networks and social interactions, this could affect the efficiency of knowledge transfer (especially tacit knowledge) (Harryson et al., 2008). How to learn and transfer knowledge across boundaries, and the effect of boundaries on knowledge transfer and development, have become important issues for organisational learning studies in addition to topics such as innovation and absorptive capacity (Carlile, 2002; Harryson et al., 2008; Easterby-Smith et al. 2008). Thus, research on organisational learning increasingly focuses on phenomena constructed from social interactions and also on the deficiencies of certain organisational structures.

In this thesis, I demonstrate through discussion of social capital theories the effect of social interaction on organisational learning. I recognise that the structural links and relational links in theories of social capital might be used to understand the role of social interaction in collective learning. This could enable me to present the effects of different types of links and also show the strengths and weaknesses of different types of networks in terms of collective learning. The research in this thesis could therefore not only illustrate the importance of social interaction in organisational learning but also provide some further insights for research in learning and knowledge development.

In the next section, in order to have a clearer idea of organisational learning and also present the importance of collective learning in organisational learning theories, I am going to discuss the definition of organisational learning, and then introduce the levels of learning in the organisation.

2.4.1 Definition and Current Studies of Organisational Learning

The definition of organisational learning has a rather broad range. Huber (1991: 89) takes a technological perspective, claiming that "an entity learns if, through its processing of information, the range of its potential behaviours is changed." Fiol and Lyles (1985: 803), who focus on cognitive and actual behavioural change, define organisational learning as, "the process of improving actions through better knowledge and understanding". Levitt and March (1988: 326) consider organisational learning as a way of learning from experience, stating that "organisations are seen as learning by encoding inferences from history into routines that guide behaviour."

Although there is no widespread agreement on the definition of organisational learning, these definitions still give some idea of organisational learning in general. If an organisation likes to acquire new knowledge, to evaluate its ideas with necessary changes and utilise its existing knowledge with its experience, it probably can be defined as a model of organisational learning.

For a deeper understanding of organisational learning, Argyris and Schön (1978) suggest that organisational learning occurs not only through individual learning but through every individual learning together. The idea of learning together is that organisational learning is not just simply the sum of each member's learning but needs a synergy created by every learning individual. These individuals are learning for the same goal and they know they work as a group. Kim (1993), who adopted the concept of single-loop and double-loop learning from Argyris and Schön (1978), establishes a link between individual learning and organisational learning. As an individual starts to learn within an organisational context, the learning situation will become different from that of learning alone. Learning is situated in the company and it could be affected by social, structural and cultural variables. Crossan et al. (1999) argue that it is necessary to understand the theory of organisational learning at individual, group and organisational levels, and Argyris (1992: 8) describes the interaction between individual and organisational learning as follows:

"Organisations can create conditions that may significantly influence what individuals frame as the problem, design as a solution, and produce as action to solve a problem. Individuals, on the other hand, may also bring biases and constraints to the learning situation that is relatively independent of the organisation's requirements."

In recent years, the study of organisational learning has been focused on the connection between learning and performance (Lyles and Easterby-Smith 2003). Sadler-Smith et al. (2006) provide a measure for organisational learning related to organisational learning orientation and organisational performance. This measure is based on Sadler-Smith et al.'s (2001) paper, which, by summarising the previous theories, provides a distinction between lower-order forms of learning and higher-order forms of learning. Lower-order forms of learning are referred to as single-loop learning (Argyris and Schön 1978) or adaptive learning (Senge 1992); higher-order learning is referred to as double-loop learning (Argyris and Schön 1978) or generative learning (Senge 1992). Lower-order learning is engaging with the existing internal or external environment by using or modifying current organisational practices, but keeping basic assumptions about the organisation and its environment intact (Spicer and Sadler-Smith 2006). This may indicate that at the beginning of the learning, or in the early stages of learning, the knowledge is made concrete by imitating or using existing knowledge. On the other hand, higher-order learning is learning that leads beyond adaptation via questioning current assumptions and developing new insights that may lead to the amendment of long-held organisational routines and practices (Spicer and Sadler-Smith 2006). This stage of learning presents an active and relatively aggressive form of learning and could be the mature stage of learning.

Besides, Vera and Crossan (2003) point out that the theory of organisational learning (OL) could be integrated with the theory of knowledge management (KM). They give clear and integrative ideas on organisational learning: "OL is primarily interested in the changes (processes) in knowledge" (128); "learning is the process through which knowledge is created and developed" (132); and "current knowledge impacts future

learning" (132). These definitions that involve the idea for knowledge have provided a new stream of OL studies. In my study, the theory places more emphasis on organisational learning than on knowledge management. However, the idea of integration (mentioned above) will be taken into account.

According to several strands of the organisational learning literature (e.g., Argyris and Schön 1978; Huber 1991; Crossan et al. 1999), learning within the organisation can occur at different levels. In the next section, the levels of an organisation will be discussed.

2.4.2 Levels of Organisational Learning

As has been mentioned above, learning in an organisation has different levels. According to the relevant literature, the levels of learning can be discussed from two departure points. One point of departure is from the context of the learning contribution and the other is from the mechanism of the learning contribution. Argyris and Schön's (1978) classification is representative of the former, describing learning within the organisation as single-loop, double-loop and deutero-loop levels. They consider that learning operates in a single direction at the beginning, following norms, systems, and existing policies to gain knowledge. At the middle level (double-loop), learning includes thinking that reverses established values and challenges existing assumptions and routines. Deutero-loop learning means understanding the issue of learning *how* to learn. However, arguments on this classification so far point out that there is some difficulty in the process of double-loop learning due to defensive reasoning. Most of the research into practice still classifies what is observed as single-

loop. Child (1994) gives a classification which probably can be linked to that of Argyris and Schön (1978). Child thinks that there are three levels of learning, technical (introducing new and specific techniques), systemic (introducing new systems and routines) and strategic (changes in strategic thinking). He also believes that at the final level learning in an organisation should achieve cognitive changes.

On the other hand and focusing on the process of learning contribution, learning is mostly classified into individual, group and organisation learning (Crossan et al., 1999; Huber, 1991; Kim, 1993; Nevis et al., 1995; Senge, 1990). These studies focus on how individual learning can be transferred to a group and then institutionalised as organisational learning. Senge (1990) gives five disciplines of organisational learning (as shown in Table 2.1). He believes that organisational learning starts from individual aspiration and proceeds to complex systems thinking.

Five Disciplines	Explanation
1. Personal mastery	a discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience and of seeing reality objectively
2. Mental models	a discipline of reflection and inquiry, concerning the constant refinement of thinking and development of awareness
3. Shared vision	a collective discipline, concerning commitment to a common sense of purpose and actions to achieve that purpose
4. Team learning	a discipline of group interaction, concerning collective thinking and action to achieve common goals
5. System thinking	a discipline which concerns understanding interdependency and complexity and the role of feedback in system development

- Table 2.1 Five Disciplines -

Huber (1991) also assumes that knowledge is acquired at the beginning by individuals, and that the information can then be distributed and interpreted by individuals and groups. In the end, this knowledge will be stored in the organisation and will contribute to organisational memory.

Knowledge Acquisition -> Information Distribution-> Information Interpretation -> Organisational Memory

Nevis et al. (1995) argue against Huber's (1991) model, and believe that information should be discussed in order to gain the real benefit of knowledge, so that an organisation can utilise knowledge better, enabling it to integrate the learning and apply it in new situations.

Knowledge Acquisition -> Knowledge Sharing -> Knowledge Utilisation

Crossan et al. (1999) consider knowledge acquisition as intuiting and interpreting knowledge. People recognise new knowledge by means of their previous experience and then present it, using words and action. Furthermore, they integrate the new knowledge into their current job, so that the knowledge can be institutionalised to provide better organisational performance.

Intuiting -> Interpreting -> Integrating -> Institutionalising

Kim (1993), who focuses on the link between individual learning and organisational learning, suggests that knowledge is transferred from individuals to an organisation via a shared mental model. This discussion from a psychological perspective gives in some ways a more accurate understanding of the levels of learning within the organisation.

Individual Learning -> Individual Mental Model -> Shared Mental Model

In the discussion above, organisational learning is seen basically as a contribution from individuals' learning. Individuals' learning will then be attributed to the whole organisation. This perspective focuses on finding out who or which elements (individuals, groups or organisations) play the key roles in promoting the learning. However, Elkjaer (2003) points out that organisational learning should focus not only on the epistemological dimension (the issue of people understanding themselves, their values and the importance of being part of the world and history) but also on the ontological dimension (the issue of human existence and development). In this perspective, learning should be naturally situated in social activities (Richter, 1998; Yanow, 2000; Elkjaer, 2003). As Elkjaer notes, "Learning is not restricted to take place inside individuals' minds but as processes of participation and interaction" (Elkjaer, 2003: 43). In our daily life, we are learning through every single activity which we participate in. Learning is not a practice which we do on purpose but a natural process in which we are a practitioner. The individual is taken to be a participant in the social process of everyday life and the organisation provides the occasion for interpretations of what happens in an organisation (Richter, 1998; Elkjaer, 2003). Organisational learning is not done by single individuals but

developed through individuals' interactions. McDermott (1993) uses a metaphor to describe the roles of individuals and the organisation. He notes that individuals, who act as fibres, make up the rope (the organisation), but once you twist them (the individuals) together to become a rope, the fibres disappear into the thread (the relationship). Therefore, an organisation is not equal to the sum of every individual. Individuals transform (twist) into other forms as they are situated in the organisation. As Elkjaer (2003: 45) states, "one cannot talk of the relation between individuals and organisations, or individual and context, as individuals in an organisation, but individuals as part of a specific organisational practice as well as of patterns of participation and interaction."

Through the introduction and discussion of the levels of learning in organisational learning theories, it might be found that organisational learning usually starts from individuals and then each individual's knowledge is shared and integrated into group/organisational knowledge. The ability to learn collectively therefore becomes an important element in organisational learning. In this thesis, as collective learning plays an important role in organisational learning, the discussion of social relationships and interactions which help to demonstrate learning ability in different social networks can illustrate the phenomenon of learning interactions in collective learning.

Current research also points out the importance of absorptive capacity on organisational learning ability and the creation of innovative knowledge (Lane et al., 2006; Zahra and George, 2002; Easterby-Smith et al., 2008), especially in smaller firms (Meeus et al., 2001). This thesis which will discuss the learning and innovation

ability under different types of network (smaller family and non-family businesses) takes absorptive capacity into consideration. Under different types of network and different density of social links, organisations would contribute to different new knowledge and innovative information. In the previous section, I have indicated the importance of collective learning in organisational learning, and absorptive capacity is taken as a mediator to see how collective learning works and what kind of new knowledge will be developed after their knowledge exchange. The following section will introduce some research into absorptive capacity in order to support the analysis and discussions.

2.4.3 Absorptive Capacity

In the discussion of organisational learning, absorptive capacity is an important theory that explains how a company develops its innovative knowledge. Following Lane et al. (2006), absorptive capacity was first identified by Cohen and Levinthal (1989), who give a theoretical model of absorptive capacity, and conducted empirical tests on general predictions of their model and assessment to determine a company's absorptive capacity. They believe that "absorptive capacity represents an important part of a firm's ability to create new knowledge" (1989: 570), emphasising the importance of environmental effects. A company that is willing to develop its absorptive capacity is influenced by the incentives for learning that it perceives in its environment. The more knowledge that is available from the surrounding environment, the more potential benefits will be utilised from this knowledge, and, as a result, the more the company is likely to emphasise its knowledge contribution.

Cohen and Levinthal (1990) develop the concept of absorptive capacity by carrying out research on individuals' cognitive structures and problem solving. They point out that an individual's learning is cumulative and that individuals learn better when the context of new information is related to their existing knowledge (Bower and Hilgard, 1981; Estes, 1970). They redefine absorptive capacity as a company's ability to value, assimilate and apply external knowledge. Lane et al. (2006: 838) conclude that this development of an organisation's absorptive capability "(1) builds on prior investments in its members' individual absorptive capability, (2) tends to develop cumulatively and to be path dependent, and (3) depends on the organisation's ability to share knowledge and communicate internally." The last point indicates that internal knowledge sharing is a significant factor in organisational learning (learning together). The new knowledge may be gained by a part of, or by a single person in, an organisation, but through communication and interactive sharing, it may be utilised more profitably within the organisation.

Cohen and Levinthal (1994) connect absorptive capacity with the ability for future prediction. They believe absorptive capacity serves not only to exploit new external knowledge but also to enable more accurate prediction of the nature of future technological advances (Lane et al. 2006). It is a capability for absorbing current knowledge and also an ability to forecast technical trends in order to have better opportunities than rivals.

In addition, Zahra and George (2002) reconceptualise absorptive capacity as "a dynamic capacity pertaining to knowledge creation and utilisation that enhances a firm's ability to gain and sustain a competitive advantage" (2002: 185). They

emphasise the idea of dynamic capability which enables the firm to reconfigure its resource base and adapt to changing market conditions and which could enhance its ability to face up to fierce business competition and produce the appropriate changes to deal with it. This dynamic capability could therefore represent a firm's absorptive capacity and illustrates its ability to adapt to the changing market. Zahra and George (2002) further suggest two sub-categories of absorptive capacity: potential absorptive capacity and realised absorptive capacity. Potential absorptive capacity comprises knowledge acquisition and assimilation capability; and realised capacity focuses on knowledge transformation and exploitation. They point out that potential absorptive capacity provides a firm with the strategic flexibility and the degree of freedom to adapt and evolve in a fast-changing environment; while on the other hand, realised absorptive capacity is usually relevant to discussions of absorptive capacity and innovative output and outcomes that pertain to creating a competitive advantage. These distinctions provide a rather clear idea of absorptive capacity in terms of the use of knowledge. They illustrate that absorptive capacity could be found in and identified in a range of characteristics, from the strategic flexibility of choices, to new knowledge, to the ability to apply and adapt to new conditions and information. According to Zahra and George, we can then understand that absorptive capacity contains the idea of dynamic capability which could help to realise a firm's ability to face the changing business world.

However, the relevant research into absorptive capacity so far is still focused mainly on the external resources and conditions of a company. In this thesis, I concentrate on the internal interactions in the company. As there are different groups and departments in a company, knowledge development in one group could constitute external

resources for another. I believe that discussion of the internal interactions between different groups within a company could provide a more precise and comprehensive understanding of employees' absorptive capacity. Their capability to use and adapt new knowledge could illustrate their internal absorptive capacity and it might also provide more evidence of their dynamic capability and innovative learning.

In the next section, the discussion turns to the topic of learning in SMEs (Small and Medium Enterprises). I illustrate this with some specific characteristics of learning in SMEs and the environment and innovation conditions of SMEs in Taiwan.

2.5 Learning and Innovation in SMEs

In introducing learning and use of knowledge in small and medium organisations, there are three elements that need to be taken into account: individuals (owner-managers); internal routines; and external networks (Thorpe et al., 2005). In this thesis, I focus on the discussion of internal relationships; the external networks therefore are excluded from the discussion.

Firstly, the decision making of individuals (owner-managers) is heavily depending on individual judgement (Carson and Gilmore, 2001), and the knowledge of the owner-manager can influence the exploration and exploitation of the learning resources. Owner-managers play important role on social networks in smaller firms, and their decisions and interactions may influence what kind of social network is constructed

within the company. Also, internal routines, which are influenced by internal relationships, organisational culture, organisational trust and organisational atmosphere, can significantly affect learning capability and the strategic learning approach. Internal routines which influence learning and knowledge symmetry also illustrate the significance of internal social capital on collective learning. Thus, depending what significance and effect the owner-manager has in smaller firms, and how important internal routines are, research in this area may throw some light on the influence of internal social relationships on collective learning.

Besides, in discussing learning in SMEs, there are some specific characteristics of Taiwanese SMEs and their environmental background which influence their learning and innovation. The following section will first illustrate the characteristics of Taiwanese firms and their innovation conditions, then discuss the relevant studies on learning in SMEs.

2.5.1 Taiwanese SMEs

According to the 2006 White Paper (issued by the Small and Medium Enterprises Administration, Taiwan), SMEs in Taiwan comprise over 90% of all business enterprises. In addition, small and medium-sized organisations in Taiwan are mostly family-owned. Tsui-Auch (2003: 201) concludes that family businesses in Eastern Asia "include a keen interest in retaining family ownership and control, an overlap of commercial goals and family goals, a protection of family interest over a pursuit of rationalistic business logic, and an adoption of a paternalistic and nepotistic approach in management" (Donckels and Froehlich, 1991; Lansberg, 1988).

2.5.2 Innovation in Taiwanese SMEs

According to Bell et al. (2004) and Tsui-Auch (2003), innovation is the dominant competence for business survival in SMEs. Innovation is recognised as an important characteristic for SMEs' knowledge utilisation and creation. However, innovation needs heavy investment and is time-consuming. It might be difficult to innovate with limited resources. Therefore, imitation may be used as an aid to innovation. Tsui-Auch (2003) argues that innovation and imitation cannot be so clearly distinguished in SMEs. Innovation and imitation are both routes to learning and can be used to identify the learning model in smaller businesses. Tsui-Auch (2003) goes on to argue that, though learning has been divided largely into dichotomous typologies, such as exploitation versus conceptual learning (Kim, 1993) or operational learning versus strategic learning (Dodgson, 1993), which are reflected in the division between imitation and innovation, imitation should be seen as a source of innovation.

In practice, taking Taiwan as an example, its smaller domestic market means that Taiwanese SMEs tend to focus on "catching up with the demands of international customers rather than technological leapfrogging" (Tsui-Auch, 2003: 2). Training and learning in companies is likely to be geared not so much towards creating new products but more towards imitating existing skills. Because of their limited capital, these SMEs tend to spend most of their time and money on surviving in the context of strong business competition. In Hobday's (1995a) study, he describes how SMEs in Eastern Asia are more likely to apply imitation to make incremental improvements in existing products rather than to develop novel creations. In such cases, SMEs tend to imitate more than innovate. However, as has been mentioned above, imitation can be

conceptualised as a resource and a source of creativity (Czarniawska, 1997). Imitation, which is the process of understanding the original experience, may help to reconsider existing ideas for inspiring a new context. Hobday (1995a) claims that firms in Singapore, Hong Kong, Taiwan, and South Korea have developed their products and processes incrementally by accumulating existing experience. They imitate new products and processes but 'innovate' some elements of the product with their own ideas to increase the product benefits. In this way, imitation will eventually lead to innovation. Therefore, in my empirical research, the investigation of innovation will take imitation into account and discuss how it influences the learning process in SMEs.

2.5.3 Innovation and Environmental Conditions in Taiwanese Family Businesses

In certain relevant bodies of literature, East and Southeast Asian businesses have been taken as a group which shares similar environmental and historical conditions (Hobday, 1995b; Carney and Gedajlovic, 2000; 2003). The influence of the post-colonial era of East Asia (after WWII, Asian countries such as Taiwan and Macao were returned by Japan and Portugal) and the turbulent changes of the industrial environment led to the emergence of family businesses in East and Southeast Asia (Carney and Gedajlovic, 2003). Family businesses therefore became the dominant corporate form of large-scale enterprise and also of industry as a whole (Claessens, Djankov and Lang, 2000).

The administrative heritage and industrial environment tends to make the innovation strategy of family firms conservative (Carney and Gedajlovic, 2003). Carney and

Gedajlovic (2003) indicate that family businesses in Southeast Asia are not well equipped to bear risk and that they tend to use their capital carefully since owners are likely to have a large proportion of their wealth and income tied to the performance of their enterprises. Thus, they tend to take a cautious approach to strategy and seek out partners to share the risk (Claessens, Djankov and Lang, 2000). The social relationship meanwhile becomes important for family businesses, especially guanxi in Chinese/Taiwanese society (Carney and Gedajlovic, 2002). Decisions on whom to cooperate with will also affect the innovation strategy and management policy of the business (Carney and Gedajlovic, 2002;2003).

Given the importance of social relationships in East and Southeast Asian family businesses, this thesis builds on the work above and seeks to examine further how those social relationships influence collective learning and innovation within the company. It places emphasis on the learning process of family businesses through a discussion of their internal interactions and network links, as a means of comparing the differences between family businesses and non-family businesses. The relevant discussions are in the analysis chapters (Chapters Four, Five and Six), particularly in Chapter Five which demonstrates the influence of guanxi on learning, presenting the influence of network links on learning and innovation in Chinese/Taiwanese family businesses.

2.5.4 Learning in SMEs – effects, process and formation

In Thorpe et al. (2005), the literature on knowledge in SMEs is systematically reviewed from three aspects. These three aspects, 'knowledge and individuals',

'knowledge and the firm' and 'knowledge and the institutional and policy environment', provide an initial route to identify factors of learning in SMEs. They also mention three elements in relation to SME learning: 'owner-managers', 'internal routines' and 'external networks'. As the focus in this thesis is on internal interactions, partly following Thorpe et al. (2005), my research approach to learning interactions in Taiwanese SMEs is divided into two elements, owner-managers and internal routines.

2.5.4.1 Owner-managers

In several strands of the literature, individuals (owner-managers) are regarded as key factors for organisational learning within SMEs (Child, 1997; Thorpe et al., 2005; Zhang at al., 2006). Thorpe et al. (2005:262) note that "among many of the studies of knowledge used in SMEs, there is recognition that knowledge is gained through the experiences and associated tacit and explicit learning of specific individuals." Wong and Radcliffe (2000) point out that the learning of owner-managers within SMEs is formed by and immersed in the processes of personal negotiation, revision and argument. Knowledge growth that is based on the interaction of individuals is presented and influenced in many ways. The individual influence comes especially from entrepreneurs and managers (Thorpe et al., 2005), so the learning ability of owner-managers may dominate the type and scope of knowledge resource in the company. Chaston et al. (2001) consider that entrepreneurs are more willing to employ double-loop (higher-order) learning styles than their non-entrepreneurial counterparts. Entrepreneurs tend to use their experience in questioning existing knowledge and in dealing with mistakes. This may lead to their understanding of knowledge remaining intuitive and correlated to individual competence (Chaston et al.

2001). This kind of learning ability is recognised as cognitive creativity by Ward (2004), who believes that entrepreneurs understand how to move beyond the restrictions of existing knowledge and so recognise and create new products by using their cognitive creativity. However, he also argues that this entrepreneurial ability is a habitual activity rather than simply cognitive thought. Other literature also mentions that entrepreneurs' cognition and ideas are not just an individual product but are socially embedded in the organisation (Keh et al., 2002; Shane, 2000). Therefore, owner-managers' cognition and decisions that are seen as arising from their personal critical opinions are actually influenced by everyday organisational routines. In the next section, the discussion considers organisational routines in order to discover how internal elements influence learning in SMEs.

2.5.4.2 Internal Routines

Learning in SMEs is not only dependent on individuals but is also situated in the organisations (Thorpe et al., 2005). In Zhang et al.'s (2006) empirical research, they also take organisational routine as an important variable of individual cognition. Daily routines, organisational systems and internal relationships influence organisational learning ability and information construction (Liao at al., 2003; Meeus et al., 2001). Liao et al. (2003) identify organisational routines that can help accumulate experience, since knowledge that is gathered from different resources can be communicated through routines. Gray and Gonsalves (2002) also take internal communication as an important resource for the growth of business knowledge. Routines that maintain the organisational memory are an essential element of learning in SMEs. Furthermore,

organisational culture, especially organisational trust, is another factor that affects internal routines in SMEs (Suseno and Ratten, 2007).

When employees have closer relationships and greater trust in each other, there is more likely to be transparent communication (Lewis, 1999). Organisational culture is like the personality of an organisation. It is a tacit feeling and influence that will affect everyone involved (Moingeon and Edmondson 1998). In his framework for conceptualizing the organisational learning process, Pawlowsky (2001) claims that culture is one of the elements of learning modes. Thus, analysing organisational learning in SMEs must incorporate both the nature of the organisational culture and the sources of knowledge upgrade.

As the aim of the research in this thesis is to illustrate collective learning and social interaction in SMEs, and to consider comparisons of family and non-family businesses, discussion of relevant literature has included research on social capital, guanxi and organisational learning. The conditions affecting learning and innovation in SMEs and in Taiwan have also been illustrated. These discussions provide a basic theoretical underpinning for this thesis.

To summarise the main theoretical concepts (organisational learning, social capital and guanxi) of this thesis, I provide a three-circle figure to illustrate their inter-relationship (see Figure 2.3). As the main stream of this thesis is to present the influence of social interactions on collective learning, I use social capital theory and guanxi theory to illustrate the importance of social interactions, which is a kind of resource development, and demonstrate their various dimensions (social capital: structural links, relational links and cognitive links; guanxi: familial, instrumental and

asymmetric). Further, I connect the ideas of social capital and guanxi with organisational learning through the concept of collective learning. I illustrate the importance of collective learning in organisational learning and also note that the conditions and ability to learn collectively could be affected by different types of social interaction. Organisational learning, social capital and guanxi connect with the effect of people's interactions and also they all take social relationship as a kind of 'resource', which could influence their development (for example, good social interactions might result in efficient collective learning). (Some more relevant discussions will be provided in Chapter Seven).

- Figure 2.3 Organisational Learning, Social Capital and Guanxi -

2.6 Conclusion

In this chapter, I have provided reviews of relevant literature to guide and support this study. First, the literature on social capital, including both western social capital theory and Chinese/Taiwanese guanxi , provides insights into social capital and its differences in terms of cultural perspectives. This will not only facilitate the analysis

of my empirical data but will also demonstrate the influence of social interactions. Secondly, the inclusion of organisational theories which illustrate definitions and levels of organisational learning highlights the importance of collective learning in organisational learning processes. The discussion also acknowledges the emphasis on social interaction in current organisational studies, thereby demonstrating the importance of social capital in organisational learning. Finally, looking at the indicators of learning and innovation in SMEs and the characteristics of Taiwanese smaller businesses will also facilitate the analysis. Since the SMEs have specific conditions and situations which could affect their social interactions and networks and might furthermore determine their collective learning, it is necessary to outline their specific characteristics to facilitate the relevant discussion.

As the aim of this literature review is not to provide a comprehensive discussion but to support and guide the study through the relevant research, it has some deficiencies. However, I believe that this literature review provides sufficient knowledge and ideas to provide a background to this study. Besides, in order to improve the reliability and strengthen the argument, some of the relevant literature will be discussed more comprehensively in the analysis chapters, along with the empirical data.

Chapter Three Methodology

3.0 Introduction

In this chapter, I discuss the methodology and the process of empirical research adopted in this study. The discussion starts with an explanation of the scope of the research and then presents the research questions relating to the study. As the research covers the fields of organisational learning, social capital, and smaller family and non-family businesses, it is important to specify their connections and correlations. First, I try to distinguish between these terms. Second, I show how the research design, which includes the research routes, provides the logic for conducting the empirical investigation. For reliable and valid research, it is necessary to construct an appropriate research design to sustain and facilitate the investigation. Third, I discuss the process of conducting my empirical research, illustrating the process of getting access to the companies and also providing brief sketches of the observed organisations. I also explain the equipment used for collecting and recording data. These discussions also set out the industrial situation and the conditions of my field work and some problems (for example, limited opportunities to data recording and interview) during the period of field work. Finally, I introduce the method of analysis and the tool used for analysing the collected data.

3.1 Scope of the Research

The literature on learning and social interaction in SMEs, as mentioned earlier, has grown steadily in recent years. However, the empirical research in this field is still not extensive. In this study, the main research question is how a company's social interactions influence collective learning in SMEs. So rather than trying to emphasise the benefits of collective learning, a comparison between family businesses and non-family businesses (different social networks) is the main issue of this thesis. This study assumes that, due to different social interactions, these two types of businesses have different knowledge resources and different learning abilities. In order to give a clearer idea of the scope of this research, I summarise the research into several key research questions:

1.   What are the differences in internal social interactions between family and non-family businesses? What kinds of relationship dominate social networks in the family businesses and non-family businesses?

As this thesis focuses on demonstrating the influence of social networks and interaction on collective learning, the research, which was conducted in family and non-family businesses, shows the different social networks within the companies. Through discussion of the differences in their social capital and guanxi, it illustrates

their specific characteristics of the social networks and the dominant ties in their collective learning.

2. How do different social networks affect collective learning and knowledge formation in smaller family and non-family businesses?

Using the perspective of social capital and guanxi, and including the effect of regional/cultural differences, can reveal specific factors and elements existing in social networks which play a major role in collective learning. The relevant literature (e.g., Thorpe et al., 2005) notes that for owner-managers and internal routines play important roles in the learning of SMEs. The research in this thesis therefore follows these ideas and goes on to illustrate the influence of social interactions on resource accumulation and knowledge communication by investigating and analysing their internal routines and internal relationships. The evidence of different types of social interactions in family and non-family businesses could facilitate further discussions of different learning and innovation process in each type of company.

3. Which promotes more effective collective learning and innovation?
A family business or a non-family business?

Different types of social networks and collective learning might have certain strengths and weaknesses with regard to their knowledge accumulation. It might therefore be interesting to identify learning ability and innovation capability in family and non-family businesses. Through discussing and analysing the learning and innovation

process within these different types of business, the strengths and weaknesses of the businesses in knowledge transfer and transformation can be identified and therefore their innovation capability evaluated. This discussion not only illustrates the different learning and knowledge applications in different networks but also provides some insights regarding learning in the family business.

3.2 Research Design: Social Constructionism and Qualitative Research

Social Constructionism

There are two distinct philosophical traditions in research design: positivism and social constructionism (Easterby-Smith et al., 2002). Positivism states that the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition. On the other side, social constructionism propounds that 'reality' is not objective and exterior, but is socially constructed and given meaning by people (Easterby-Smith et al., 2002).

The rise of social constructionism can be traced back to nineteenth century reactions to the Cartesian positivist view of science, which developed in the wake of the Enlightenment (Lindgren and Packendorff, 2009:29). Ideologists of the emerging social sciences demanded that individual and social phenomena had to be studied through the subjective minds of individuals and there is no knowledge beyond individuals' subjective and inter-subjective interpretations of reality (Cunliffe, 2008;

Lindgren and Packendorff, 2009). "Man and reality are thus seen as inseparable and ideas, thoughts and actions are the result of ongoing processes of interactions and interpretations between human beings." (Lindgren and Packendorff, 2009: 30) Social constructionism takes the view that reality is developed through social processes and things and individuals do not exist independently but are socially constructed (Berger and Luckmann, 1966).

Shotter (1993: 2) provides the example of 'I love you' to illustrate the idea of social constructionism. He argues that it is the moment, and how the relationship is forming between the partners, that might lead to these three words making a crucial difference in a relationship. It is the flow of essentially conversational activity between the partners that decides whether this 'declaration of love' could have power to create a new kind of relationship between them; very little comes from the words themselves. In addition, Gergen (1999: 65) states that it is metaphor that we live by. "Words gain the sense of being true to fact through long-term usage within a community." It is actually people's interactions and conversational activity that makes the meanings of words and also contributes to 'reality'. Therefore, to investigate reality or social phenomena, and to understand people's language, we need to consider which community they are involved in and to consider in relation to their interactions, routines, group background, culture, and so on. Within different groups or communities, the same language or interactions can have different underlying meanings (Gergen, 1999; Shotter, 1993; Lindgren and Packendorff, 2009), and this is how social networks/people/interactions are constructed. It is thus important to discuss social phenomena with a view to which groups we are approaching and also to investigate it qualitatively.

In this thesis, the research design draws on ideas from social constructionism. I believe social construction is built upon every aspect of human behaviour and it is more meaningful to understand the causes and consequences of that behaviour by observing affairs through people's interaction than simply just to interpreting things as law or listing them as statistics (Shotter, 1993). Rather than trying to validate findings in a positivistic sense (positivism), I take a social constructionist approach and so consider that reality is determined by people, and not by objective and external factors. Therefore, not on gathering facts and measuring how often certain patterns occur, the emphasis in this thesis is on analysing the different constructions and meanings that people place upon their own experience. In social constructionism, "one should try to understand and explain why people have different experiences, rather than search for external causes and fundamental laws to explain their behaviour" (Easterby-Smith et al., 2002: 30).

Thus, in this research, following the idea of social constructionism, I use empirical data obtained via case studies and through participant observation to make sense of the causes and consequences of organisational phenomena, and then try to provide some new connections and inspirations to the existing theories. The case studies therefore include the stories which are exclusive to each company and also the observation of their social phenomena and people's interactions over a period of time. As mentioned above, different groups may use different language/metaphors for different purposes. Case studies are therefore used to conduct the research as they can then provide in-depth understandings of different groups. The data and findings in this research, though, may not be sufficient to represent the whole 'reality', but efforts will

be devoted to presenting some parts of the social phenomena (for example, the phenomena of collective learning in the IC design and software sectors in family and non-family businesses; the influence of internal strong and weak social networks on collective learning).

The research approach is inductive. As mentioned earlier, learning in small and medium organisations is still a developing field that needs to be improved and refined (Zhang et al., 2006). In this study, the aim is theory development rather than theory testing. The research is based on established theory and seeks to add new insights from empirical data (for example, the comparison of family and non-family businesses with qualitative analysis may give some new ideas on collective learning and social capital in SMEs).

Qualitative Research

As the research is more about providing new insights into existing concepts, the use of a qualitative approach is more appropriate than adopting a quantitative research approach (Easterby-Smith et al., 2002). "Quantitative oriented research is traditionally associated with the positivistic paradigm while qualitatively oriented research is traditionally associated with the interpretivist paradigm" (Adam and Healy, 2000: 53). Quantitative research, which mostly refers to surveys, enables us to get a wide range of samples using standardised approaches. This can provide a broad idea of an issue and, because of wide-ranging sampling, is suitable for generalising relevant phenomena (Adam and Healy, 2000). On the other hand, qualitative research, which often includes case study, experiment and observation, "is a mixture of the rational, explorative and intuitive, where the skills and experience of the researcher play an

important role in the analysis of data" (Ghauri et al., 1995: 84). It is used to focus on research which emphasises deep analysis of different aspects (such as the discussions of different social relationships for understanding collective learning in this research). It is suitable if the objective of the research is to generate in-depth insights into particular phenomena (Ghauri et al., 1995).

In this thesis, the research design will follow qualitative methods and will use case study as the main route to collect data. As the aim of this research is to understand and depict the influence of social interactions on collective learning in smaller family and non-family businesses, the basic concepts of learning, social capital and guanxi are used as the theoretical basis to facilitate the analysis and interpretation of the empirical data. Furthermore, this research might be able to construct some new insights and correlations between social capital and organisational learning theories. In order to observe and understand the social interactions, it is therefore necessary to use qualitative research to collect rich and in-depth data (Ghayri et al., 1995).

3.2.1 Pilot Research

The idea for the topic of this research comes from my pilot study carried out in the summer of 2006. While conducting several interviews in five SMEs, I realised that there are different social networks in family and non-family businesses. I therefore did some searches in the academic literature, and found that there is not much research that compares family and non-family businesses, and in fact no qualitative research on the subject. As the initial research plan was to fill the gap in research in the study of learning in SMEs (Thorpe et al., 2005), the smaller family businesses and non-family

businesses provided comparative examples to support and illustrate the research into the effect of social networks (different social interactions) on organisational learning. The contribution of this study is therefore not only to present the learning and innovation processes in SMEs but also to demonstrate the effect of social networks, the importance of internal links, and some specific characteristics of family businesses. Besides, since organisational learning, social capital and family businesses are all independent fields of research, this study which, crosses the boundaries of these categories, might be able to provide some new insights and concepts which might improve theoretical development.

3.2.2 Research Strategy: Case Studies

Case study is defined by Robson (2002: 178), as "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence." As this research is designed to gain in-depth understanding of social capital and collective learning in selected companies, and the investigation is conducted in a detached way (starting with the pilot research and constructing this subsequent study with reference to that pilot research), the case study is a suitable research strategy for this study (Easterby-Smith et al., 2002; Morris and Wood 1991; Yin 1994).

This study is built on the premise that different forms of social interactions and collective learning exist between smaller family and non-family businesses. The cases, selected through purposive sampling, are two family and two non-family businesses. Also, the purpose of this research is to develop theory rather than to test theory. The

cases are therefore selected because they are particularly suitable for illuminating and connecting the relevant concepts and logic among constructs (Eisenhardt and Graebner, 2007). The use of multiple case studies is intended to provide understanding and comparison of two different patterns of organisations, and the cases are used to support the initial set of propositions (the differences between family and non-family businesses) (Yin, 1984, 1994).

According to Yin (1984: 31), "As a general guide, the definition of the unit of analysis (and therefore of the case) is related to the way the initial research questions have been defined." Therefore the four case studies are conducted under the same framework (see Figure 3.0) which is developed from the research questions.
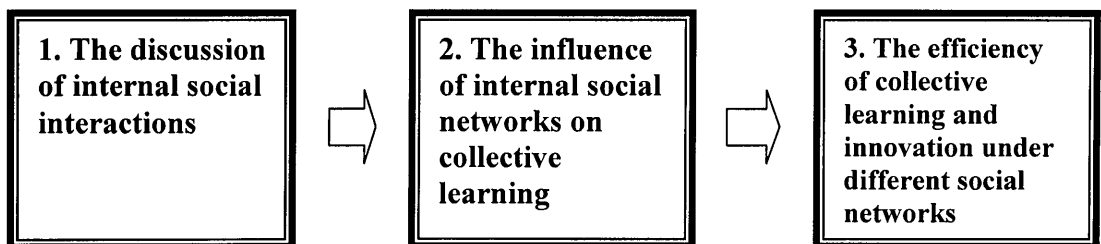
- **Figure 3.0 Framework of Case Study -**

In addition, given that there are wide-ranging definitions of 'family business', in this instance the definition adopted is that of a company that has been established by a family group and in which family members represent the main percentage of central management. The sector selected for the research is the Information Technology (IT) industry since the high knowledge intensity of this sector makes it a particularly valuable setting in which to study organisational learning. However there are many

types of IT company, I will focus solely on software and IC design companies as these are companies which have relatively high information acquisition and are appropriate for a study of the learning context. The size of the company should fit the definition of SME. Although the definition of an SME is complicated, according to the 2007 White Paper (issued by the Small and Medium Enterprises Administration, Taiwan), it can be simplified into two dimensions, turnover and number of employees. Thus a company is an SME if (1) the turnover is under 100 million new Taiwanese dollars per year; and (2) the number of employees is under 200.

3.2.3 Research Methods:

Participant Observation and Semi-structured Interviews

3.2.3.1 Participant Observation

"The method of participant observation has its roots in anthropological research, where a key element of the research training involves living within societies or tribes in faraway places and attempting to understand the customs and practices of these strange cultures." (Easterby-Smith et al. 2002: 110). Organisations which usually have their own culture and customs are viewed as 'tribes' and the relevant studies (management or organisational researches) have used participant observation as part of research methods.

Literally, participant observation seems to imply mere observation, but it does more than simply observe. Bryman and Bell (2003: 316) say that in participant observation "the participant observer immerses him/herself in a group for an extended period of

time, observing behaviour, listening to what is said in conversations both between others and with the field worker, and asking questions". Participant observation, which typically involves gathering further data through interviews and collection of documents, can thus include a wide range of type of data.

Easterby-Smith et al. (2002) divide participant observation into four schemes: researcher as employee, research as explicit role, interrupted involvement, and observation alone. The research scheme in this thesis is research as the explicit role. I went to the office every day over a period of two to three weeks and I stated clearly that I was a researcher. Roy (1970: 217) stated that the advantage of this research scheme as being that the researcher "not only makes no secret of his investigation; he makes it known that research is his overriding interest....The participant observer is not tied down; he is free to run around as research interest beckons."

To conduct participant observation of this thesis, I spent two to three weeks in each company and I used various instruments to record the data (including a digital camera and voice recorder). In addition, note-taking and daily diary-keeping were used to record the observations.

Since organisational learning theory is related to issues of daily work processes and development (Elkjaer, 2003; Easterby-Smith et al., 2000), the empirical research for this thesis is conducted through daily observations, and is intended to provide a further contribution to the theory. Elkjaer (2003) notes that the investigation of 'organisational learning' from the perspective of learning through social interactions should focus on daily work content and also on interaction between members.

3.2.3.2 Semi-structured Interviews

In addition to participant observation, I also conducted several interviews with senior management and employees in each of the four companies. Unlike structured interviews (which usually has fixed questions) and unstructured interviews (where there are no set topics and where the probing is deeper), a semi-structured interview usually involves a list of questions on fairly specific topics to be covered but these are as a guide and the process is highly flexible (Bryman and Bell, 2002). It is more of a free-ranging discussion around certain basic topics. The interviewer usually includes space for interviewees to bring up their own issues and the topics may always not follow the schedule exactly. However, as a semi-structured interview provides a great deal of leeway for interviewees in how to reply, the collected data can be extensive and new insights might be gained from things said by interviewees (Bryman and Bell, 2002).

This research emphasises using practical data to categorise and structure the research; semi-structured interviews which can cover a range of issues can then enrich the information on practice and be useful in gathering as much relevant data as possible. Bryman and Bell take William et al. (2002) and Milkman (1997) as examples to demonstrate the benefits of semi-structured interviews. In William et al.'s research, their interviews covered motivation, emotions, trading strategies and questions about organisational culture. They then used these data as the basis for their conclusion that traders focus on avoiding losses rather than making gains. This conclusion might not

be easy to discover through direct questions. Milkman (1997) notes that she never discourages anyone from going off on tangents (as in her interviews in General Motors) and that respondents therefore can make the data dynamic. I believe that semi-structured interviews can facilitate research and the extensive data can be used to construct relevant and even new links. Semi-structured interviews, which can provide dynamic links across different issues, may can help to bring out new insights from the empirical research (Saunders et al., 2003; Bryman and Bell, 2002). Because they allow the participants (in this case the employees) to dominate, they can also provide real and dynamic insights for research.

3.3 <u>Data Collection</u>

3.3.1   Gaining Access to the Companies

Firm A

Access to this company was gained through my father's network. The owner of firm A (OA) is my father's friend in the Rotary Club. They have known each other since 2004. By coincidence my father and OA have the same English name (Eric), so they quickly got to know each other. In order to carry out the field work for this project, I told my father that I needed to do some research in IT companies in Taiwan. He then recommended that I talk to OA. As I was in the U.K., we first got in touch via email. I described my work, made a simple schedule of the research process and also mentioned that I would be going to back to Taiwan (when I would be able to have a

face-to-face conversation with him). He replied indicating that he was highly interested and said that he would like to talk to me when I came back to Taiwan. Then, when I was back in Taiwan, I made an appointment with OA and had a brief chat with him. After a short conversation, he seemed to understand my requirements and gave me permission to conduct the research in his company. We arranged another meeting to interview him for my field work (recorded). After the interview, OA also introduced the senior managers (R&D manager and HR manager) in order to help me collect more data.

In accordance with my research questions, I asked if I could conduct the observation in the Research and Development (R&D) department. The R&D manager arranged a seat for me in this department and she introduced me as a research visitor to the company. I conducted an interview with the R&D manager before I started the work of observation. This interview was tape recorded.

Afterwards, I went to the company every day, just like their normal employees. During the lunch break I ate with three or four people and some of the data were collected during our conversations at these times. Most of the time, when I was at my desk, I used note-taking to take down relevant information. Lunch time was a good opportunity to have conversations with the employees, although it was not appropriate to use the recorder (because they said they would feel uncomfortable when being recorded). I also had several informal interviews with the employees when I found that they were not busy. In total, four of the informal interviews were recorded by voice recorder and ten of the informal interviews were noted down during or after the conversations. Besides this, I attended the weekly departmental meetings. These were

eleven-person meetings, including the R&D manager. My observations were recorded in the form of notes.

After visiting the company, I kept in touch with OA's secretary via email. Some of the documentary data and clearer information (such as some professional words and industrial background) were provided with the secretary's help.

Firm B

The owner of Firm B (OB) was introduced to me by my uncle. They were classmates at university. When my father knew that I needed four companies for my field work, he asked my uncle (husband of my third aunt) if he could help me. My uncle graduated from National Taiwan University (the top university in Taiwan) and his major was Electronic Engineering, so some of his friends run businesses in the IT sector. The OB is one of my uncle's best friends, and, although my uncle moved to the U.S. after graduation, they still keep in touch regularly. After my uncle introduced me to the OB, I got in touch with the OB and he was willing to help me. He said, "I knew your uncle was struggling with his thesis for a really long time, and I hope I can help you to finish yours sooner." He was really helpful, arranging meetings for me with the HR manager and the R&D manager and also promising me that he would let me attend their meetings. The interviews with managers were recorded.

Similar to Firm A, I went to the company every day and had a desk in the R&D department. There was internet access and an internal telephone at my desk. In the lunch break, I sometimes had lunch at my desk and then I could talk to my neighbour, and sometimes I had lunch with four or five people and then I could talk to these

different people. In the meantime, I used note-taking to record relevant information.
There were five informal interviews with employees (recording was permitted in two
interviews) and twelve conversations with employees which had to be written by
hand. I also attended five meetings of two different groups. One of these was for
senior managers discussing major products and decisions (around 20 people in the
meeting). The other was a group meeting for one of their products (12 people in the
meeting). During the meetings, I took notes to record my observations.

After finishing the observations, I had a short chat with the company's HR manager
and also took her contact details for continued contact in the future.

Firm C

I was introduced to Firm C by the owner of firm A (OA). OA and the vice General
Manager of Firm C knew each other as a result of being in the same sector (the
software industry). The OA had known the vice GM of Firm C for three years and
they often play golf at the weekend. After the OB told him of my requirements, the
vice GM was willing to do me this favour. The office of Firm C is in Taipei (about
400 km from my home town), so I spent a weekend going to Taipei to meet the vice
GM. It took about 60 minutes for our first meeting and the conversation was recorded.
He also introduced their R&D manager and HR manager to me. The time of the visit
was arranged with their R&D manager and I also made appointments to interview her
and the HR manager.

During the periods of observation, most of the time I sat at my desk and used note-taking to record the phenomena that I observed. I usually had lunch with two people who sat next to me. Sometimes they needed to support the sales department to deal with customers' problems, while I went to buy lunch by myself and tried to have a conversation with other employees. They also invited me to join their weekly meetings (I attended three). Note-taking was the method of recording these meetings.

After 14 working-days of observation, the data recorded by voice recorder included one formal and one informal interview with the vice GM, two formal interviews with the R&D and HR managers, and two informal interviews with employees. In addition, ten informal conversations with employees were recorded by note-taking.

The main contact person so far has been the R&D manager who has offered relevant documentary data and other relevant information to me. We keep in touch via email.

Firm D

Firm D was introduced by the owner of Firm B (OB). The HR manager of Firm D is one of the good friends of Firm B. They have a ongoing relationship because they are in the same sector (IC Design). When I decided to look in the IC design sector for a fourth company, I consulted OB as to whether he could recommend any company to me. I told him of the necessary conditions for a fourth company and also of the time that I would like to spend in the company. A few days later, he sent me an email to inform me that he could do me this favour.

I spent two weeks (10 working days) in Firm D, with their R&D people. There are two teams in the R&D department: a software team and a hardware team. They also provided me with a place with an internet connection and a telephone with a local line. It was arranged that I would join the hardware team in the first week and then the software team in the second week. During the stay, I had a formal interview with the HR manager and also two formal interviews with the R&D people. Also, as we had lunch together, I had several chats with them during the lunch time. For the formal interviews I wished to use the recorder but all of them refused to be recorded. I therefore used note-taking to record the context. As to the informal interviews, like some of the chats, I took notes as soon as possible after the conversation.

The company also invited me to attend their weekly meetings, and a speech, which was given by the employees who had taken courses outside the company (in an institution of professional skill development). During the meeting, I also took notes to record my observations.

After my stay, I kept in touch with one of the HR people and one of the R&D people. If any further information is needed, I can get access through them.

3.3.2 Details of the Four Companies

Company Description

	Firm A	Firm B	Firm C	Firm D
Sector	Software cooperation	IC design	Software cooperation	IC design
Number of Employees	63	100	78	97
Ownership	Family business	Non-family business	Non-family business	Family business
Year of Formation	2000	1997	1998	1997

Main Product	System cooperation and software design	IC design and software	System cooperation and software design	IC design and software
Number of R&D People	10	37	14	29
Length of Stay	3 weeks	3 weeks	3 weeks	2 weeks
Turnover of Employees in 2006	7%	15%	5%	13%

- Table 3.1 Company Description -

	Family Business	Non-Family Business
Software	Firm A Family Business	Firm C Non-Family
IC Design	Firm D Family Business	Firm B Non-Family

- Figure 3.1 – Matrix of Research Companies

3.3.2.1 Firm A: Background of the Company

(extracted from the report written by the Assistant to the General Manager)

Firm A is a software company with 60 employees. It was established in 2000 by two brothers who founded it as a cooperative company with other two shareholders. The main product of the company is system cooperation and specialised software design. They have service points in Taiwan and China. After a short time, they started to recruit professional talent from the information industry and to retain senior

employees in order to keep their skill level high. This company, as the owner said, "is a team that consists of a group of knowledge and technology people, and is also an elite team in Taiwan's information industry". Together, they are devoted to pursuing personal growth and collective excellence and to continuing to contribute to society through constant innovation.

The company is committed to innovation, research and development, respect for the employees, teamwork, and absolute integrity. It provides customers with a complete solutions service by a professional technology team. Strongly upholding that customers are their most important asset, they have recruited many talented professionals and given them strict professional training. They believe that only talented professionals can provide customers with good solutions and services.

The main product

In this company, the main business is introducing a variety of information products to their customers through holistic planning. To improve overall competitiveness, the company focuses on the provision of products and professional services to assist the customers to integrate their internal systems. These include complete business electronisation consulting, high-level workstations and server hosts required for customers' computerisation, together with peripherals, network products, database systems and special software packages. They also provide continuity of after-sales consulting and maintenance for the customers. The G.M. said, "As meeting customers' requirements, customer orientation and high satisfaction are our goals, we

will make more effort to develop our professional team on our products and technology; quality and service to expand our market share."

There are 10 people in the R&D department. All of them have a relevant engineering background (graduates in Electronic Engineering or Information Engineering). The work of employees is basically organised according to the size of the project. If it is a large case (a comprehensive case, which needs at least five people to it complete in one month), the manager will arrange for a big team to handle the project. People are not committed to any team, and the members of any team may be changed if targets of a case are different. The manager of the R&D department believes that the ability to follow logic is the most important consideration. Every product follows a different logical path. If you are on the right path, you can complete it quickly and successfully.

The R&D manager said, "we would like to create a work environment where our professional talents can fully exert their abilities. We trust and respect each employee. They take the initiative in researching and innovating, besides fulfilling their regular duties. They also share these analyses, technologies and results with our customers. I hope that every employee is recognised for their ability and develops a sense of satisfaction at work. All of us are able to meet our potential and together create an energetic and competitive team."

Organisational Structure

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                        │   General Managers   │
                        └─────────────────────┘
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│ Dept. of │  │   Dept. of   │  │ Dept. of │  │ Dept. of │  │ Dept. of IT  │  │ Dept. of │
│   H.R.   │  │Administration│  │   R&D    │  │ Finance  │  │              │  │ CAD/CAM/ │
│          │  │              │  │          │  │          │  │              │  │   PLM    │
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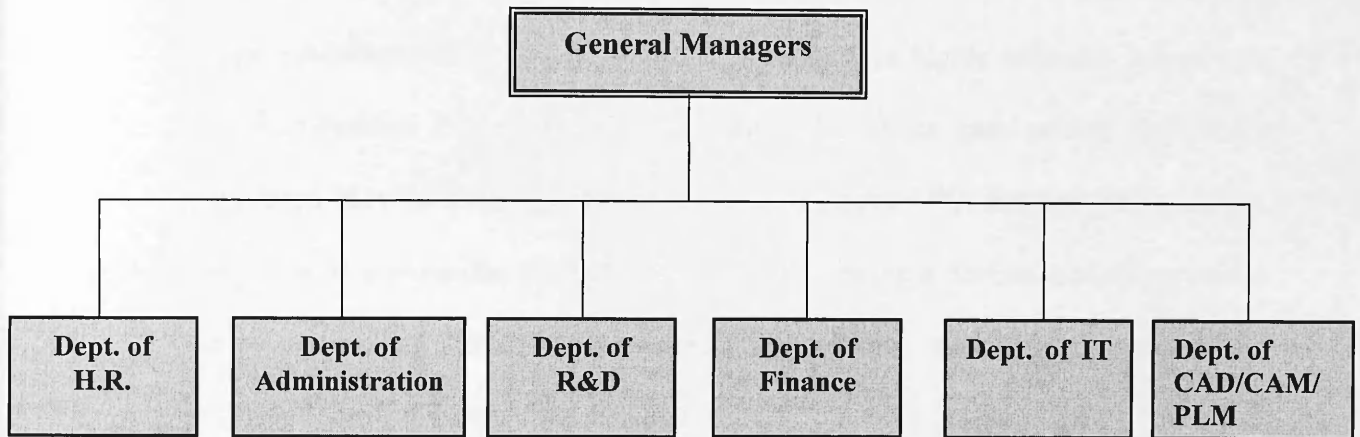
- Figure 3.2 Organisational Structure of Firm A -

In Firm A, there are two general managers. The older brother is mainly responsible for technological affairs and the younger brother is mainly in charge of sales affairs. They have 10 people in the R&D department.

3.3.2.2 Firm B: Background and Product

(extracted from official documents)

Firm B was established in 1997 in Taipei County, Taiwan. Their primary products are the design and research and development of electric circuits, semiconductors, digital communications products, computer peripherals, and other related products. The company specialises in high speed I/O technology, specifically USB 2.0 and PCI Express chip technology development.

In the USB market, they make use of their own core technology design, and aside from computer market applications, they have also applied the technology to consumer electronics and telecommunications products. On the PCI Express product line, the company provides a series of PCI Express PHY and PCI Express to PCI bridge controller chip products, providing solutions for highly efficient, low-power, and fully-realised PCI Express functionality. Using its rich analog technology experience, they have released the world's only 4-channel PCI Express PHY product. They have also expanded from the success of PCI Express SerDes technology to the rapidly expanding Serial ATA storage applications market, and successfully developed their own low-power SATA PHY.

The company's various diverse products are all based on its core technology, including high-speed USB 2.0/PCI Express/SATA transfer interface and flash memory interface, allowing for the shared use of R&D resources. They not only provide a diverse product line, but also provide comprehensive solutions for clients, who include computer peripheral manufacturers, consumer electronics manufacturers, system manufacturers, and network product manufacturers.

Their G.M. said, "I believe that the only key point for a successful business is professional knowledge. We may have some opportunities to become a larger company or produce other kinds of products, but I do not want to be in a rush, unless our knowledge has matured and we have enough resources to support the new change." He added that, "in the meantime, we focus on the USB market and there is still a lot of potential in this market."

Organisational Structure
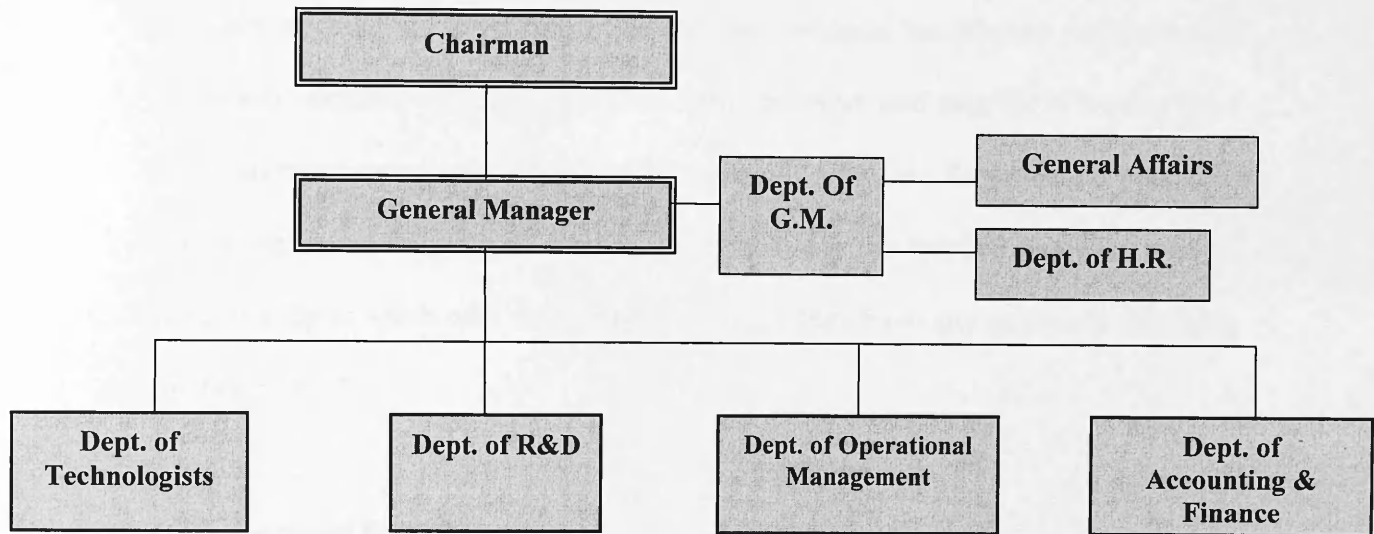
- Figure 3.3 Organisational Structure of Firm B -

In Firm B, R&D is the main department and includes 37% of the employees. Under the R&D Department, there are five groups that operate different areas of product development. However, in some special cases, the working partners might be changed due to changes in the design of the products.

3.3.2.3 Firm C: Background and Products

Firm C was established in 1998 and it was founded by two shareholders. Their main products are based on software cooperation, which includes digital management systems (for example, the annual accounting system), website design and wireless

system. Since 2005, in order to cooperate with government policy, they have focused on to the set-up of wireless local area networks.

They also believe that it is very important to have a secure customer service. They are not only working on newer and more dynamic products but also on understanding customers' requires and demands. Their R&D manager said that, "it is usually sales that respond to customers' ideas and then we will send our departmental people to discuss new products. After we make a deal and ship the finished products, we still need to keep in touch with the customers in case they have any questions regarding the new items."

Organisational Structure
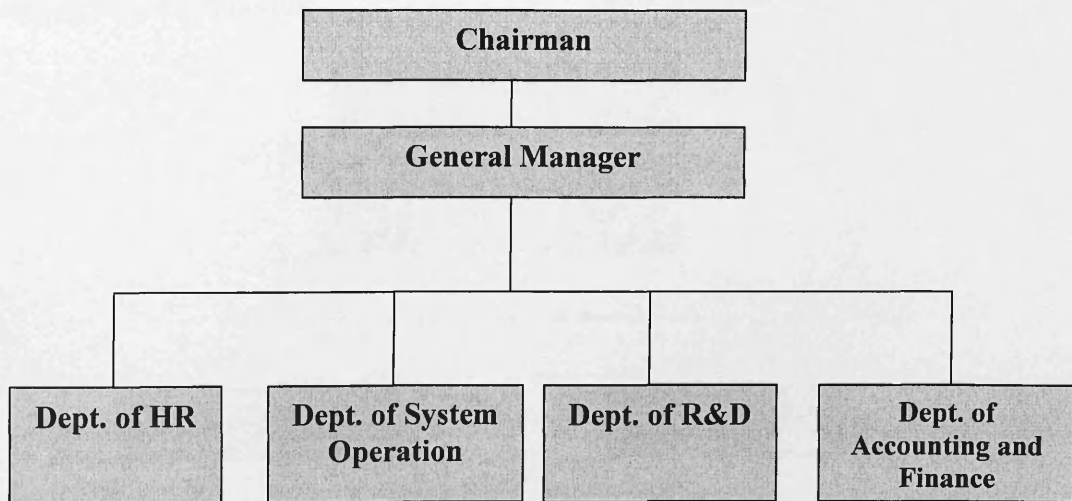
- Figure 3.4 Organisational Structure of Firm C -

There are 13 employees in the R&D Department. They do not belong to specific groups and it is the R&D managers who organise the work.

3.3.2.4 Firm D: Background and Products

Firm D was built up by three brothers. They brought in specific techniques from America at the beginning, and then continuously developed their own skills. This IC design company is devoted to developing multi-media integrated circuits and the design of deep submicron system-on-chip. They use their skills in software and hardware design to meet customers' demands and to provide professional service.

Their product range covers vision, vocal, video and central processing units. Their developments include digital analog converter (DAC), analog digital converter (ADC), central processing unit, image processing and compression, and digital still controller.

Organisational Structure

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                        ┌──────────────┐
                        │   Chairman   │
                        └──────┬───────┘
                        ┌──────┴───────┐
                        │    G. M.     │
                        └──────┬───────┘
              ┌────────────────┴────────────────┐
      ┌───────┴────────┐                ┌────────┴────────┐
      │ Review & Audit │────────────────│ Dept. Of G. M.  │
      └───────┬────────┘                └────────┬────────┘
   ┌──────┬───────┴─────┬──────────────┬─────────┴────────┐
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│Dept. ││Dept. │    │Dept.  │     │ Dept.   │        │  Dept.    │
│Of    ││Of    │    │Of     │     │ Of      │        │  Of       │
│Manage││Finance│   │Marke- │     │ R&D     │        │ Production│
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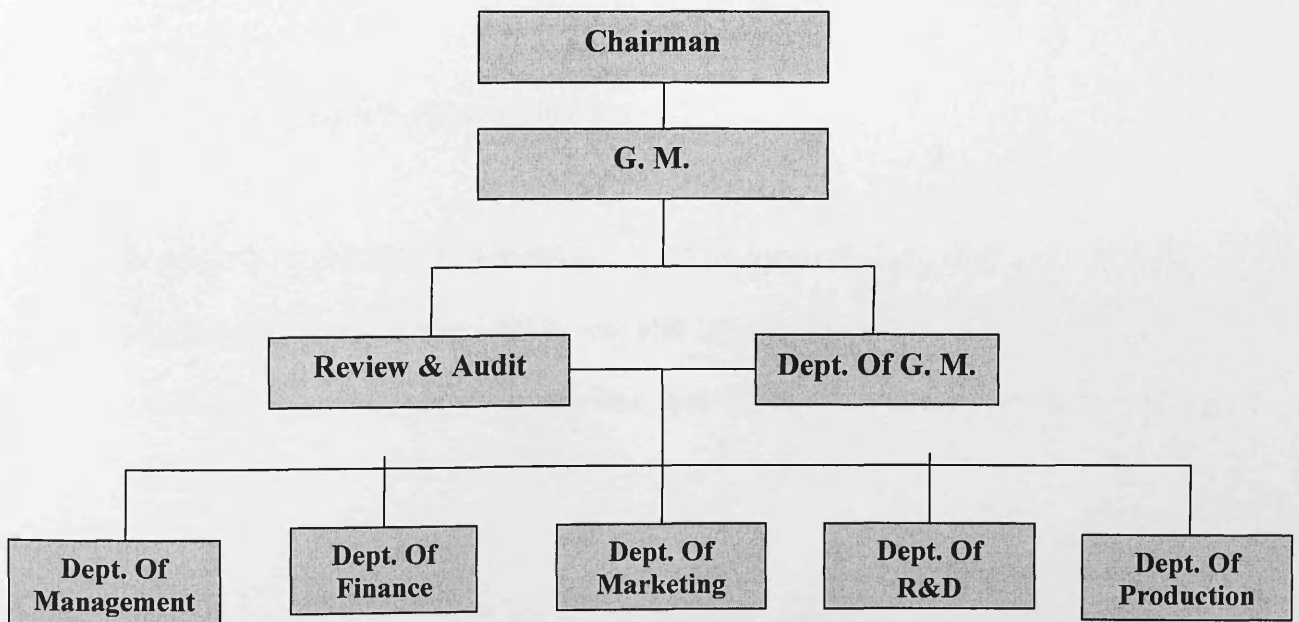
- Figure 3.5 Organisational Structure of Firm D -

There are 29 people in the R&D Department. The R&D Department is separated into two teams: the software team (17) and hardware team (12). Depending on the project, the two teams send different people to co-operate to get the project done.

3.3.3 Equipment and Process of Data Collection

The methodology of the investigation is observation and semi-structured interviews. The aim of the research is to understand the internal networks and social interactions which might affect organisational learning within the organisation. Each company was observed for two to three weeks. Guided by the research questions (focusing on learning and innovation), I stayed in the R&D department for most of the time in order to observe the connection between social interaction and product innovation.

3.3.3.1 Equipment for Data Collection

In order to record the data accurately, I used a digital voice recorder as the main tool during the interviews. Note-taking was also used to help capture the main points. If interviewees did not wish to be recorded, note-taking was the main tool for recording the data.

At other times, when I was in my desk I usually read and did my own work. I tried to have as much conversation as possible in order to obtain information. People were usually kind enough to answer my questions. I was also able to listen to their informal

discussions and observe their routines while sitting at my desk. In this case I also used note-taking to describe and record the scene.

Finally, I took some photos in order to record the environment of the companies and also to have a clear image of the companies.

Firm A	Firm B	Firm C	Firm D
Two formal interviews; 14 informal interviews (4 recorded); 7 pages of the official introduction of the company; 10 pages of a documentary report for organisational structure, turnover and the background of the company.	Three formal interviews; 17 informal interviews (2 recorded); 20 pages of the official introduction of the company; 15 pages of a documentary report for organisational structure, turnover and the background of the company.	Three formal interviews; 13 informal interviews (2 recorded); 10 pages of the official introduction of the company; 3 pages of a documentary report for organisational structure and turnover	Three formal interviews; 12 informal interviews; 5 pages of the official introduction of the company; 5 pages of a documentary report for organisational structure and turnover.

- Table 3.2 Number of Interviews and Documents -

3.4 Analytical Tool

For qualitative research, the most frequent tool used for analysis is NVivo (Bryman and Bell, 2003). However, in this research, in which the relevant documents and interviews are in Chinese, I found that it was difficult to translate Chinese into English so as to fit in with the NVivo software. It would be time-consuming to translate all the relevant data and also might involve problems of mistranslation, which could lead to

invalid links or to missing some relevant information. Thus, I have used a more traditional method to analyse the data.

To do this, I used two notebooks to organise the data recorded through note-taking. One is a diary book, recorded by date, which includes working routines within the companies and everyday occurrences; the other is a thematic book, organised by the themes and specific issues which emerged during observation. In addition to this, the interviews were recorded by digital recorder and transferred to my laptop as documents, in which I noted the interviewees and topics in. If there were any interesting stories, I would specify these in the thematic notebook to remind me that there were some examples and in which document these could be found. The interviews, which were recorded as notes, were categorised in the thematic notebook to see if there were any relevant subjects and links. This method is like template analysis, in that it uses thematic codes or template to categorise numerous data (King, 2004). In the analysis process, my initial template was based on my research questions in order to organise the data from the observations, then relevant topics were added from the semi-structured interviews. A more comprehensive description of the templates and the process of analysis will be given in the next section.

The benefit of using ordinary language to analyse data is that it gives a clearer idea of the data. As English is my second language, reading data in Chinese makes it much easier to find the ideas and relevant links. Although I still had to face the problem of constructing the context in reasonable English, this task was not too hard since the important points and ideas had been extracted. I also believe that rather than having a perfect translation of the data, spending more time on developing and understanding

the organisation and the subjects of the thesis is a more efficient and reasonable approach for PhD research.

3.4.1 Process of Analysis

Data Collection

Main Topics of Semi-Structured Interviews	Main Points Observed during Participant Observation
With owner: - The background of the company - The competitiveness of the company - The current and future plans of the company - The internal and external networks **With HR managers:** - The background of the employees - The turnover - The general requirement for selecting and recruiting new employees - The internal and external networks - The organisational structure - Social activities **With R&D managers:** - The process of product production - The background of R&D people - The working hours - The work routine and group division - The internal and external networks - Product innovation **With R&D employees** - The background of the employee - The work routine - The working hours and loading - The product innovation - The specific issues for the products - The internal and external networks - The suggestions for the company's future	**At my desk:** - The general interactions between employees - The position of the group leader or manager - The work routine **At the meeting** - Their interactions on a specific product - The flow of knowledge exchange - The methods of presentation - The motivation for knowledge sharing **Social activities** - Their social interactions besides the work - The social group divisions within the company - Their working motivation and other social resources **Informal Conversation** - Further information on special issues or questions after interviews and a couple of days' observation - Informal chat to confirm some interesting information provided by owner-managers or the interviewed employees - To acquire more data from people whom I have no other opportunity to interview or talk to (for example, in meetings or during social activities)
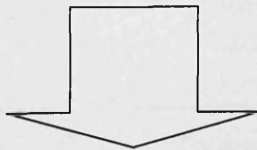
Data Analysis

I categorise the data into three main groups: *social capital, guanxi and collective learning/innovation.* In each group, I specify the data from family businesses and from

non-family businesses, and subsequently organise the data into several sub-categories (for examples, in social capital group, under family business, there are three sub-categories: structural links, relational links and cognitive links; see the Figure 3.6 below). For examples, in the interview with the HR manager in Firm D (family business), the interviewee says that she prefers to select people from family members because of a feeling of safety and having a double obligation (as an employee and also a family member). This story then illustrates the importance of relational links in Firm D. 'Interview with Firm D HR manager' can therefore be found in the category of 'relational links' of 'family business'. Basically, the data which are relevant to social relationships are categorised as 'social capital' links; the stories which demonstrate the social interactions as being part of Chinese/Taiwanese culture are considered as elements of 'guanxi'; and any activities or interactions which link to the company's innovation process or knowledge sharing (e.g. by the density of their social interactions) are put into the 'collective learning and innovation' group.

Social Capital	**Guanxi**

- *Family business*
a. Structural links
   (network structure, network ties
   and network interactions)
b. Relational links
   (identification, trust, norms, and
   obligation)
c. Cognitive links
   (shared codes/language, shared
   narratives)
 	
- *Non-family business*
a. Structural links
b. Relational links
c. Cognitive links
	- *Family business*
	a. Familial guanxi
	   (familial sentiment, loyalty, humanity,
	   and obligation)
	b. Instrumental guanxi
	   (knowledge, administrative power,
	   and capital)
	c. Asymmetric guanxi
	
	- *Non-family business*
	a. Familial guanxi
	b. Instrumental guanxi
	c. Asymmetric guanxi

Collective Learning and Innovation

- *Family business*
  a. Strong ties
  b. Knowledge transfer and transformation
  c. Product innovation

- *Non-family business*
  a. Weak ties
  b. Knowledge transfer and transformation
  c. Product innovation
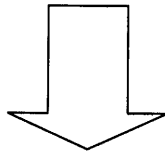
Social Capital -
Family Businesses:
Relational links dominate their
internal relationships

Non-Family Businesses:
Structural links dominate their
internal relationships

Guanxi –
Family Businesses:
Sentimental guanxi dominates
their internal relationships

Non-Family Businesses:
Instrumental guanxi dominates
their internal relationships
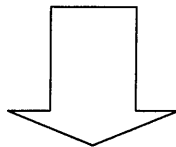
Collective Learning and Innovation (investigation into internal networks)	
Family Businesses:	**Non-Family Businesses**
- Intensive social interactions within the group - Strong links between group members, based on relational links and sentimental guanxi - Closed networks and rather high boundary between groups - Knowledge transfer and transformation under this kind of relationship - Innovation process	- Weak ties in their social interactions - Rather loose links with group members - Open networks - Knowledge transfer and transformation under this kind of relationship - Innovation process

- Figure 3.6 Process of Analysis -

The collected data was first categorised into different interviewees, methods of collection and subjects. Next, I categorised the data into three main groups, 'Social Capital', 'Guanxi' and 'Learning and Innovation'. Sub-categories for each group were also developed, drawing upon different theories and research streams. The data analysis was conducted and analysed by the empirical data of each company and also the knowledge from the theories. Once the data has been analysed and discussion, it then becomes possible to identify the real insights and contributions of this study.

From the interviews, I have gained an understanding of the background of each company, the basic working routines and their organisational structure. From the data collected in my observations, I found that social networks differ between family and non-family businesses. Theories of social capital and guanxi are therefore used to explain and illustrate the formation and connections of social networks in family and non-family businesses.

In the family businesses, I noted that people have more obligations to the company, especially those within the management. Through observation, I found that there to be close relationships within the groups but a clear group boundary between groups. Furthermore, I analysed how these phenomena could influence collective learning and the innovation process.

On the other hand, I saw that the non-family businesses have more open networks and the relationship is basically maintained by work. Unlike family businesses, which have more sentimental obligations, the social relationship in the non-family businesses is comparatively simple and with weak ties. This condition could contribute to a

learning ability and innovation process that is different from that of the family businesses.

3.5 Role of the Observer

In order to observe the real situation and to be objective, I think it is necessary to be involved with the groups but not to influence much their routine and daily work. During the periods of observation, I was trying not to interrupt the work but was looking for an interval or tea break in order to have informal conversations with people. If any questions or issues arose during a meeting or on some other occasion, I would make simple notes and then try to find an opportunity to talk to those concerned. My main idea was to avoid influencing the normal routine and social interaction so that I could collect more reliable data.

During the period of observation, I was treated as an employee and provided with a desk, a local line and internet access. They also provided me with an identity card so I could go and walk around the company freely. In each company, I was provided with a main contact to refer to if I had any problems. Most of the R&D people knew I was conducting research for my thesis and they were quite kind in helping me if I had any questions. Besides, during a meeting, I usually chose a seat from which I could observe every employee present and take notes quickly in order to attract as little attention as possible from other group members.

3.5.1 Ethical Considerations

It is necessary to note the ethical procedures for research in the observed companies. When I had the first meeting with the owner-managers, I would mention that the research data was for my thesis only and that only I could use these data. The name of the company and the name of interviewees would not be identified in my thesis. The resulting sense of security promoted a willingness to give me permission to access the company.

During my stay with the employees, I did not specifically mention this ethical statement until there were significant questions and situations when I had to stress this ethical commitment. This happened especially when I asked sensitive questions or when the employees were curious about my research. For example, some of the employees were curious about which other companies I was researching into. In this kind of case, I usually just responded with general information (for example, in which sector and around which location). To avoid further questioning I did not give the company's name. However, sometimes it was not easy to avoid this problem as they might already know which company I had been visiting. For example, when I got access to Firm D through the owner of Firm B's network, the owner-manager of Firm D knew that I had stayed in Firm B and mentioned this to the employees. Before I went to Firm D, most of the employees knew that I had visited Firm B before. Firm B and Firm D are both IC design companies, so people in Firm D liked to ask me about the situation of Firm B and were very curious about Firm B. I therefore had to clarify my role and provide reasons why I could not provide any information about other companies and that I would also keep confidential anything I learned in their company.

3.6 Conclusion

This chapter, which includes a discussion of the research methodology, has aimed to strengthen the reliability and the validity of this thesis. In this chapter, I have identified my research questions, and provide details of the research design. I have also given information on the observed companies, the process of analysis and some idea of the research difficulties and the ethical responsibility of the researcher.

The section on research questions has been used to provide the main topics that will be discussed in this thesis. This covers the relevant issues in the thesis and provides a general idea of its aims. The question of the differences of social capital in family and non-family businesses shows that the different agents of social capital are part of different social networks and social interactions. This phenomenon could therefore raise questions about how these differences affect collective learning in the observed companies. Furthermore, it is the question of understanding how different social interactions affect their learning ability and knowledge innovation.

In order to present and illustrate the research method, I outlined the research design and the logic of the research philosophy to demonstrate how and why I chose those methods and concepts. Rather than providing a comprehensive introduction to my research methods, I focused on explaining and illustrating the research method of this study which could support and facilitate the discussions to follow. Based on social constructionism, the work is devoted to developing and analysing relevant issues from interviewees' working experience and the observed phenomena, rather than trying to use a theory to explain all phenomena. As the aim of this research, through analysing

and understanding social interactions, is to present the influence of social capital on collective learning, participant observation, which allows investigation of social relationships, is a suitable method for this research.

The section which introduced the observed companies sought to present general information on them which would show that they are appropriate samples for research because of their sectors (IC-design and software, both knowledge intensive hi-tech sectors), their size (around 60-100 employees) and their type (family business and non-family business).

Finally, the process of analysis indicated the reason for using a traditional method of analysis and outlined the process of analysis, from categorising data through to analysing it. Besides this, I indicate possible problems and provide some examples from my observation of the difficulties encountered during the research. In the final chapter (Chapter Seven), some more relevant limitations will also be discussed.

The next three chapters will contain the analysis sections, which combine theoretical discussion and the empirical data.

Chapter Four Social Capital and Collective Learning

4.0 Introduction

In this chapter, based on my field work, the discussion is focused on the connections between social capital and collective learning within the company. In some relevant literature, social capital is considered as a kind of resource which can facilitate the flow of information and enhance the outcome of actions (Burt, 1992; Lin, 2001; Suseno and Ratten, 2007). In the theory of collective learning, the benefit of learning together and knowledge sharing is emphasised (Nevis et al., 1995; Crossan et al., 1999; Kim, 1993) and the idea of learning collectively through people's interactions can be connected to the concept of network interaction in social capital theory. In this thesis, social capital, considered as an activator that may facilitate social interaction within the company, is recognised as assisting the collection of knowledge and information.

According to Nahapiet and Ghoshal (1998), social capital has three dimensions: the structural, the relational, and the cognitive. In this chapter, I first illustrate relational links in the family and non-family businesses, and point out the dominant ties within the company. In the family businesses, as the company is basically operated by a family, the relational links within the family business (especially at the senior management level) are relatively strong and important. As the management (the family group) usually builds up special relationships on the basis of relational links in which non-family members cannot easily get involved, other employees might imitate

them by having their own special relational networks or by trying to develop a special connection with the family members. Thus, the family businesses, which are mainly dominated by relational links in their social network, will illustrate how relational links affect knowledge sharing and information exchange.

On the other hand, the non-family businesses (Firm B and Firm C), which will also be discussed in relation to relational and structural links, are based on structural relationships, (for example, organisational structure). In the non-family businesses, since the business was started without an existing relationship such as exists in a family business, the social relationship is mainly dominated by structural links. The evidence therefore is presented that studying the effect of social capital on collective learning in the non-family businesses will reveal more information about the influence of structural links on their learning.

In addition, the third dimension of social capital, cognitive links, which may be found both in structural and relational links, will be discussed. Although the data collected in this study provides limit evidence of cognitive links, I believe the influences of cognitive links could be embedded in any shared codes or narratives. Tsai and Ghoshal (1998) have also mentioned that a shared vision or a set of common value could help develop cognitive links, but it would be more significant in a large, complex organisation.

The final section includes the conclusion and the discussion, stressing the contribution and the findings in this chapter. As the empirical research was done in family businesses (Firm A and Firm D) and non-family businesses (Firm B and Firm C) and

in the software sector (Firm A and Firm C) and the IC design sector (Firm B and Firm D), an integrated discussion and comparison will also be provided in this section.

4.1 Relational Links

Relational links are defined as a sort of relationship that is made up of tacit connections. They do not have a visible structure and they usually take a period of time to build up (Granovetter, 1992). For example, friendship, which could combine the feeling of trust and the willingness to share, and which also indicates the history of people's interactions, is a typical form of relational link. In order to provide a clear discussion of relational links, the following section starts with a brief introduction to the elements of relational links and then goes on to the connection between the theories and my findings from the field work.

The introduction is based on the research of Nahapiet and Ghoshal (1998), who contend that relational links should contain four elements: trust, norms, obligations and expectations, and identification. Trust includes people's belief in someone's intended behaviour/action and also the acceptance of someone's intended ideas (Misztal, 1996). We may have trust between friends, classmates, colleagues, and also from seniors. Trust usually happens between people from the same background (for example, classmates or colleagues), who have shared experiences or have a belief in each other's capability. We believe that a person whom we trust is reliable and is open to listening to and understanding our ideas, and even more, we would like to share and exchange knowledge and information with each other. All these types of trust can be

found in an organisation. Trust might be the basis for activating the relational links (Tsai and Ghoshal, 1998), and could also be a tool to strengthen the existing connections.

Secondly, norms are invisible rules that are not easy to infer from single actions or words. Norms can be constructed in a group as small as two people or as big as a whole institution, country or nationality. Coleman (1990) describes norms as a kind of tool that represents a degree of consensus in a social system, and when norms exist, the right to control an action does not reside in an individual actor, but in the people. Norms are usually built up by the accumulation of time and culture. These could be tacit rules (for example, be respectful to elders) or traditional customs (for example, exchanging presents on Christmas Eve or giving a red envelope at Chinese New Year). These norms are not enforced by law but people will follow them and take implementing them for granted. Norms reflect the thinking and values within a social group (the previous examples might therefore reflect the fact that Christmas is an important day for Western culture and also that, within that culture, people prefer presents rather than cash, in contrast to the red envelopes of money commonly given in Chinese society). As norms can represent 'groupthink', they can affect social interaction. For example, if an organisation has built up a social norm of encouraging employees to share knowledge and being open-minded to any information, people's communication and interaction may be enhanced, which might result in a better learning capability. Thus, norms, which have influence through invisible consensus, could affect the interactions of social relationships.

Thirdly, there is obligation and expectation, which Nahapiet and Ghoshal (1998: 255) understand as representing "a commitment or duty to undertake some activity in the future". Expectation usually occurs when a person or an institution assigns a project or piece of work to someone in the belief that they will do it in the best way. For example, the recipient of the work takes finishing the assigned work as an obligation to the person giving the work. This type of interaction exists as a kind of relationship based on exchange of benefits. In the business environment, this relationship can be found between owner-managers and employees. For example, while an organisation offers a pleasant working environment or provides a good salary for employees, at the same time, the organisation expects that the employees should perform the work better, and 'performing the work better' is taken as an obligation by the employees. Coleman (1990) thinks that obligations can also happen within personal relationships. For instance, when Mr. A provides a favour (for example, sharing his knowledge or experience) to Mr. B, Mr. A expects that Mr. B will have an obligation to help him in the future. Furthermore, this benefit exchange might sometimes be based on professional mission or contractual/formal connections (Fairtlough, 1994). As the focus in this thesis is on the effect of people's interaction on collective learning, in the discussion of internal relationships the discussion of obligation will emphasise personal interaction rather than the relationship between organisations.

Finally, identification is a phenomenon by which individuals consider themselves to be at one with another person or particular group (Nahapiet and Ghoshal, 1998). Identification is usually developed through being a member of a group and by taking the group's ideas as a reference for action. People who identify themselves as belonging to a particular group usually take the group's point of view as an important

guide. For example, Mr. A might care particularly about Mr. B's ideas because they graduated from the same university. The university could represent a kind of group identification, so Mr. A will believe that Mr. B shares values and ideas with him. Besides, because they might identify with each other in the same situation and have the same knowledge bases, people within the group will share things and exchange opinions more openly (Kramer et al., 1996). Collective learning and knowledge sharing could be effective between group members. However, identification can also become a barrier to accepting information from outside the group (Child and Rodrigues, 1996). As the groups within an organisation have strong identification, each group acts as a barrier that blocks organisational information sharing. Thus the following section will discuss how identification both enhances collective learning and also prevents the spread of knowledge.

Nahapiet and Ghoshal (1998) consider that relational links could affect knowledge sharing and exchange. However, they do not focus in detail on how these elements influence learning, especially collective learning. As learning begins from individual learning, and as group learning and collective learning are the main issues in organisational development (Crossan et al., 1999; Senge, 1990; Thorpe et al., 2005; Zhang at al., 2006), in the following section, the discussion first focuses on the connection between relational links and collective learning, analysing both in family and non-family businesses.

4.1.1 Relational Links in the Family Businesses

Drawing on my field work, the findings and results relevant to social capital and the learning will be discussed in four sections based on identification, trust, norms and obligation.

4.1.1.1 Identification

In the two family businesses that I observed, I found that in both there are gaps between employees and senior managers. In a family business, the senior managers are mainly family members and they seem to be seen as a particular group by employees. This kind of identification presents a problem for communication between groups (family members and non-family members), although it might also provide the benefit of strong links within the group (there is further discussion of the effect of strong and weak links in Chapter Six). During my stay, I observed that was not easy for the employees to have close relationships with the senior managers but they shared almost everything with other employees. In the following section, I give some examples and discuss how this phenomenon affects social relationships and communication in the company.

In the two family businesses that I observed, the percentage of family members in the senior/broad management in both cases is over 50%. Most of the managers have their own office and their offices are located around the department. In Firm A (software, family-owned), the senior managers' offices are arranged in a semi-circular around the main area for employees (see Figure 4.1).
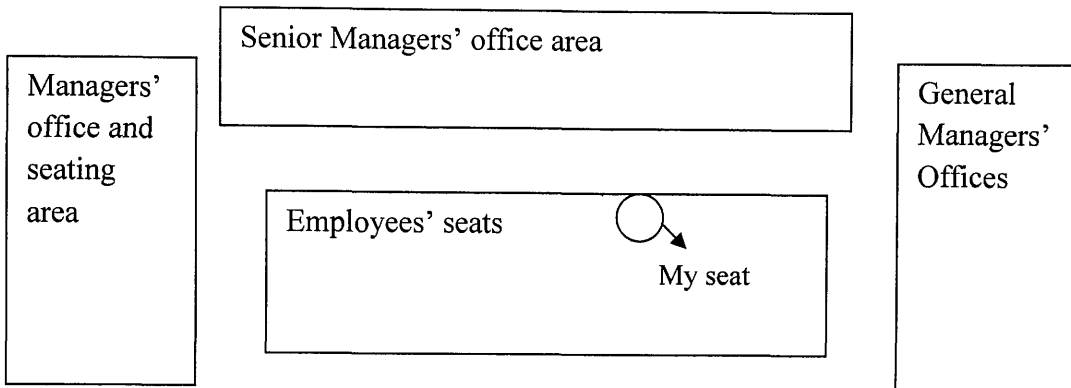
- **Figure 4.1 Allocation of Seats (Firm A)**-

During my observation, when I was at my desk, I found that managers seldom came out to talk to people. They usually used the extension number to ask someone in. During lunch time, most of the time managers would order a meal and have lunch in their office. Other employees would either order a meal or go out for lunch together. I usually had lunch with three or four people, aged from 26 to 30, from the R&D Department. When we had lunch, they usually talked about their daily life and work issues. Sometimes they would talk about their managers and use a nickname for some of the managers. They thought that, although those senior managers were relatives, they still belonged to different petty factions. Some of the senior managers were nice to the employees but others were described as 'big monsters'. However, when I interviewed one of the R&D employees, he said that employees do not really have the opportunity to take part in casual activities with the owner-managers, and that stories about those senior managers were mostly heard from senior employees.

In Firm D, the office was located on two floors, the 9th floor being for R&D employees and managers, the 10th floor for other departments and senior managers. My seat was on the 9th floor with the R&D people (see Figure 4.2).
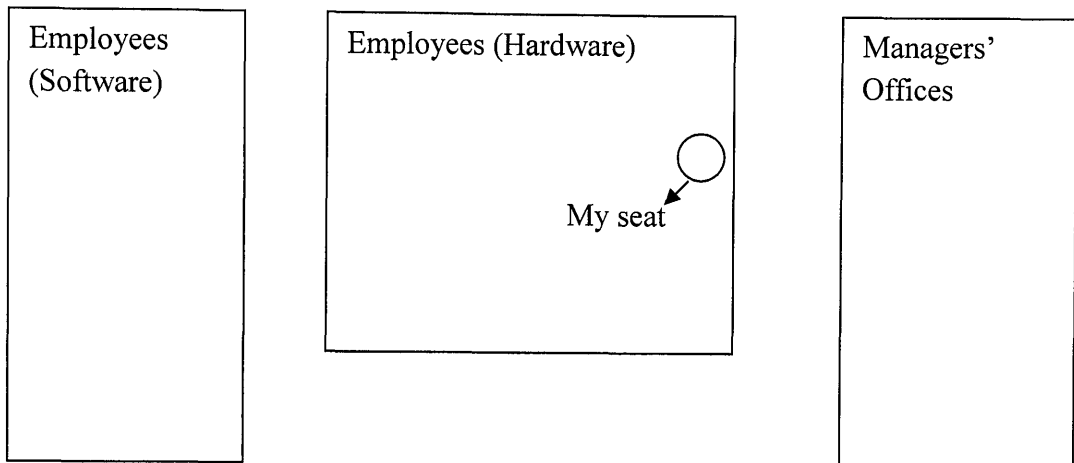
- Figure 4.2 Allocation of Seats (Firm D) -

In Firm D, they have a larger R&D Department which is organised into two teams, the software team and the hardware team. Most of the time, both managers and employees bought lunch by ordering take-away. I usually had lunch with three people, all around 27 years old. In addition, another group of people twice invited me to have lunch with them. During lunch, they would talk about their daily life, work issues, and also about people from the senior management level. They used the terms 'the upper floor' or 'that family' to represent that group of people. They often said, "the upper floor doesn't really understand our needs" or "do you know what that family do to...?" It seemed that the family (senior management people) were recognised as a particular group and there were some barriers to communication between senior management people and employees. During the observation, I found that senior managers very seldom came to the 9th floor (in fact, only once during my two-week stay), and that messages were usually sent down by the team leaders or an employee who was responsible for a project. When I asked certain employees about their relationship with the senior management, they all said that they did not really have much

opportunity to talk to them and they thought of them as 'big bosses', about whom they only sometimes heard some stories from other employees.

There were also some communication problems between groups of employees. When I spent my first week in the hardware team, I was informed after just two days of my stay that there were conflicts between the software team and the hardware team. One of the software employees said, "The difficulty of communicating with software people sometimes really gets me down and angry. I don't know how and why they think in this way." Both software and hardware people mentioned this communication problem. From the hardware people's point of view, the software people are not really able to provide an appropriate software system to support the hardware product. They think it is easier to correct the software system's code to make the product perform better, while it is much harder to redesign the product. Nevertheless, from the software people's point of view, hardware people should try to provide a better hardware design. One of the software people said, "It is impossible to increase the product performance as the components are not good enough."

It is not easy to decide what the real reason is for this problem with product improvement, but it shows the gap in communication between these two teams. As one team always thinks that it has already put a lot of effort into the product and thinks the other team has not worked hard enough, it is very difficult to understand the real situation and the main reason for the inability to improve. However, I think that this is an effect of identification. Identification has a positive effect in that people have trust and share knowledge more easily within a group. However, there are negative results from misunderstandings between groups (Child and Rodrigues, 1996),

especially when they face the same problem. People would rather just support their group members than analyse the problem rationally. Truth and real knowledge are therefore not easy to communicate between groups.

These observations and conversations illustrate the problem of identification in family businesses. From the allocation of seats we can see the distributions between different groups, which might consolidate their identification. Some gaps between family and non-family members and between different groups, as were evident from the conversations, also illustrate their sense of group identification. Identification can help group members to share things and exchange knowledge more openly within the group, but it also contributes to forming barriers between groups. People in the same group not only have a closer relationship with one another but also take the group's ideas as important references in order to strengthen their identification. Within the group, collective learning seems easier but it is difficult *between* groups. Thus, in Firms A and D, where the employees have a close relationship with their fellow group members, and in Firm D, where the software and hardware firms each have their own strong group identification, we may be seeing the effects of 'identification' and also the influence of social interaction on collective learning.

A family group also easily identifies itself or is identified as a particular group within a company. This kind of family-group identification, which has existed since the business started, is an inevitable phenomenon, and it can also affect other employees' interactions. As other employees find that the family group identification presents a kind of value or power, they may recognise that group identification is important within the organisation. Also, the influence of owner-managers in smaller firms is

quite significant (Thorpe et al., 2005). People in the smaller family businesses might therefore tend to have their own group. This understanding shows the influence of the family group, which affects the social interactions within the company and also their knowledge sharing. Relational links (identification) seem to play important role on collective learning in the family businesses.

4.1.1.2 Trust

Trust is an attitude to people or other parties which you believe his/her/their ability and ideas. Where trust exists, cooperative behaviour, which implies the exchange or combination of resources, may emerge. "When two parties begin to trust each other, they become more willing to share their resources without worrying that they will be taken advantage of by the other party" (Tsai and Ghoshal, 1998: 467). Trust acts as the key element in relational links.

In family businesses, there is some evidence to show the significant influence of trust on their internal social interactions. In Firm D, when I was talking to an employee in Firm D (IC design, family-owned), he said, "If I have a question on work or get some problem with doing my job, he (pointing to a man) can always advise me with some suggestions. He has been in this company for six years, and I think he knows everything". In Firm A (software, family-owned), when I talked to an employee (sitting next to me) about the solution of a problem, he told me that, "I was introduced by my school classmate and he can tell me anything that I am not clear about.".

In Firm A, there are 10 people in the R&D department. Depending on different projects, employees might have different working partners (if it is a big project, the R&D manager would arrange for more people to handle it). When I interviewed an employee (Mr. A1) about problem solving, he said, "I would discuss with my partner first... But we usually just recognise the questions and possible solutions...Some other further information we have to collect and do the research by ourselves." The methods of searching for solutions are basically to use their own network, as Mr. A1 said, 'he would collect the relevant information first and then ask the person (Mr. A2) he trusts within the company". Mr. A1 trusts Mr. A2 since they both graduated from the same university and Mr. A2 was a distinction student in the class. Mr.A1 believed that Mr. A2 could at least give him some useful direction. From my observation, Mr. A1 and Mr. A2 actually did not have much work contact but would sometimes have lunch together. As in this case, a relationship can sometimes develop beyond the organisational structure. People tend to gain information via the people whom they trust, using a network that they believe in. Knowledge or information may be accepted or not accepted solely because the person's reference is trusted or not trusted. This kind of relational link (based on trust) could be formed for different personal reasons (Hardin, 1996), and as the trust is developed, there will be greater openness in knowledge sharing and in exchange of ideas (Misztal, 1996).

In Firm D, I found that people who trust each other would talk about many issues, including some that were controversial or confidential. When I had lunch with them, they would talk about some issues, adding "don't talk to other people", and I also observed that they sometimes would chat on the staircase. Their relationship was mainly based on personal connections and with a basis of individual relations. They

therefore had some issues that could only be discussed with the people whom they trusted and with whom they felt safe.

These phenomena in Firms A and D show that trust can motivate people to share information and knowledge with people who they believe in but can also block information when the source of the information is not trusted. Trust, which is usually embedded in relationships, (which could exist between two people or several group members) and which can govern the acceptance of information, therefore plays an important role in collective learning. Trust can also solidify relationships within a group. Since, because of trust, members share information and knowledge, the more they share, the more they feel reliant on each other, and will then share more information with and secure more information from each other. In the next chapter, I provide more discussion of how trust affects collective learning (in terms of familial sentiment) in order to demonstrate more clearly the influence of trust in a family business.

4.1.1.3 Norms

Norms, which can be understood as a part of culture affecting our daily routines, is an important element of social capital. Within an organisation, because most of the employees come from different places, norms can help people to integrate more easily into the company. Firm A and Firm D are both family businesses, but in different sectors, and present some similar norms but also some differences.

In Firm A, I observed that one of the main norms is authoritarian management. The managers and the seniors have massive control over the juniors and the juniors usually just listen to the seniors' opinions. For example, when I attended their meetings, I found that the conversation was basically only on 'one-track' most of the time and the juniors were just listeners/receivers. The seniors or the managers would ask about the process of the projects, and the juniors just answered the question and did not have an opportunity to express other ideas. The next step to be taken, and what should be done for the next meeting, had already been decided by the managers, without any discussion with the junior people. The juniors were used to this kind of communication and showed their respect to the senior people.

In Firm D, I observed similar norms of giving great respect to seniors. The juniors just reported what they had done for the past week and there was little discussion during the meeting. When I had lunch with employees, although some of them would express some negative feelings about managers or seniors, they would still say, "They are the seniors so we should obey them."

I consider that this phenomenon could be related to the paternalism of Chinese/Taiwanese culture. A family-owned business somehow uses 'father-power' to control and manage the whole company. In traditional Chinese/Taiwanese culture, the father is a guide and an honourable man who deserves the respect of all family members. He has great power and has to take responsibility for the security and well-being of the family. Family members should follow him, trust him and accept any decisions that he makes. Even if the decisions might sometimes be wrong, the family will still have to listen to the father's opinion. In family businesses, as the business

was started by a family, the method of managing could easily be influenced strongly by the 'father figure'. When I talked to one of the senior employees in Firm A about the early stages of the company, she said that the first two years had been a very exacting period. Her uncle (the owner) usually asked them to stay late to finish the assigned work and no one dared to leave earlier because her uncle would stay behind to watch them work. The relationship between them was that of relatives plus employment and, as a member of a family, she could understand this and was willing to work hard for the company. Although the management style is not so harsh now, the way of giving orders and listening to the seniors could still show the continuing influence of authoritarian management.

In this kind of social norm, collective learning between juniors and seniors might be blocked and collective learning is mainly conducted horizontally. However, as the senior managers take the main responsibility for what employees learn and control their progress, the stress among junior employees might help them to learn efficiently from one another. As the order/goal is clear, and they also understand that it is important to finish on time, their learning attitude might be more active. One of the employees in Firm D (Mr. D1) said that they sometimes stay late together because of a meeting the following day. Thus, when the norms work, people are more likely to take a similar track and on the basis of similar values, which could facilitate organisational management and development.

Norms which are highly relevant to the culture will also be discussed in the next chapter, with further explanation using guanxi theory.

4.1.1.4 Obligations and Expectations

As in social relationships, personal interaction (for example, knowledge sharing or information exchange) can bring obligations and expectations, with the duty and commitment to undertake some activity in the future (Nahapiet and Ghoshal, 1998). In a family business, although the seniors have the main authority for decision-making, they also have to sustain possible risks in the future. In my opinion, this kind of interaction is naturally connected by 'give-and-gain', which means that, when people show you some attitude or benefit (give), for example, respect or knowledge, they expect you to help them or offer them useful information in the future (gain). Thus, this kind of relationship is connected by 'give-and-gain', and group members usually have the same goals or expectation about particular things. For example, in Firm D, people in the same team (either in the software or hardware team) would share and help each other when working, and shared the same obligation to make the product better in order to meet the manager's expectations. The owner-managers would provide sufficient benefits (for example, a good salary) and, in return, would have expectations of their employees; employees who received sufficient benefits (for example, a good salary) would then have the obligation to perform better in their work.

In Firm A and D, as they are family businesses, in addition to the obligations of benefit exchange, especially at the senior management level they have a duty to improve the performance of the whole company. At the senior management level, because they have a blood relationship and the company was started and developed by them, the company is not only an asset but is also like their child. They therefore have

a double obligation to the company. They will do anything to make the company better and to secure a better future for the company. This double-obligation makes people in the family businesses work hard and knowledge/information might communicate more efficiently since they are under the same, strong obligations.

4.1.2 Relational Links in the Non-Family Businesses

In this section, I turn my discussion of relational links to the non-family businesses, in which the effect of these links is not as significant as in the family businesses.

4.1.2.1 Identification

In the two non-family businesses that I observed, the group identification is not very clear. People are relatively independent and some of the employees are not easily identified as belonging to any group. During my stay in Firm B, between managers and employees, it was also not easy to identify from their seat allocation who the group leader or the manager is. Managers sit with employees and do not have specific rooms (see Figure 4.3). People usually get together for business affairs.
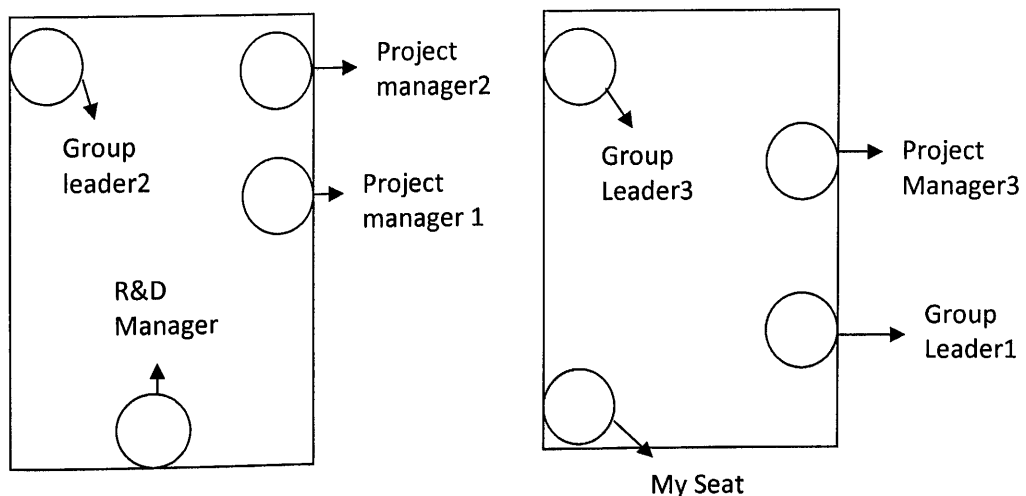
- **Figure 4.3 Allocation of Seats (Firm B)** -

In Firm B, they had rather open conversation and communication. Employees and managers would frequently discuss product problems or business affairs and sometimes they would just walk to each other's seats to start communication. During lunch time, some employees would just have lunch on their seat and some would go out with colleagues. I usually had lunch with a girl (Miss P.) whom the company sent to help me, and also with some other employees. The people with whom I had lunch were not the same every time, and sometimes even Miss P. was unable to have lunch with me. When we had lunch, they usually talked about business or the informal activities organised by the company (for example, they had a stair-climbing competition on the second Friday I stayed and they also had softball team practice every two weeks). They seldom talked about personal things and there was very little 'group only' information.

In Firm C, I observed there were some parallels with Firm B. For example, their employees did not seem to belong to any particular group either, and people only talked about their businesses affairs. During their lunch time, people usually had their lunch alone (at their desk or they went out alone). I had lunch with some people for the first couple of days but we then had lunch by ourselves after I knew where I could buy my lunch. They were very busy with their work and they sometimes even worked during their lunch time. The seat allocation of Firm C is not open like Firm B. The R&D manager had her own office, but R&D people did not all sit together. Some sat at zone 1 and some were in zone 2 (see Figure 4.4). They usually passed things and communicated via the internet. During my stay, I found out that they were always busy by themselves and they almost only talked about business with each other.
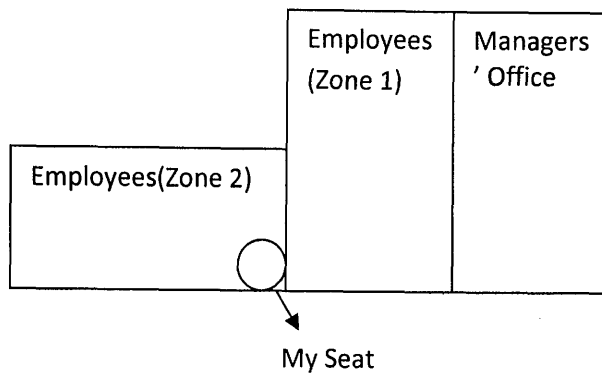
- **Figure 4.4 Allocation of Seats (Firm C)** -

In Firm B and Firm C, it was not easy to recognise whether people belong to any group. As staff did not get together regularly (besides assigned meetings or events), and they were also not used to sharing specific or 'group only' information (weak group identity), I regard their relational link as not being strong. The effect of identification on their social interaction is not significant.

4.1.2.2 Trust

In the non-family businesses, employees' relationships are rather loose and their interactions are based on their work positions. Unlike family businesses where some employees might have known each other for a long period of time (they are relatives or friends), in the non-family businesses employees do not have much personal contact and their discussions are mostly around business.

In Firm B, when I stayed there, I found that their people do not share personal things very much. When I talked to one of their employees (Mr. B1) about problem solving, he said when he had problems he would refer to his supervisors first, then try to figure it out by himself. Also during the conversation, since the topic was about the work and

their products, he was pleased to share his opinions. However, when the topic was about personal information, he tended to answer simply (only 'yes' or 'no' in some cases). He also said that they do not usually talk about personal matters in the company. In Firm C, I also found that they seldom had personal conversations. According to my observations, people in Firm C usually only had business conversations. When I talked to Miss C1, she said that, "it is hard to say who I am familiar with, we usually only talk about business; and also, people coming and leaving sometimes quite frequently..." This might also be the reason why they do not have long-term (familiar) relationships with each other. As trust can make people share more things and have more contacts, the phenomena I observed may indicate less trust in the non-family businesses.

In the family businesses, they have personal/group only information and relational links dominates their social interactions; on the other hand, in the non-family businesses, people's relationships are determined by their position and the relationship relies mostly on the organisational structure.

4.1.2.3 Norms

The effect of norms in the non-family businesses is also not significant. In Firm B, I found that they usually followed the standard rules and structures to organise their business. When I joined their weekly meetings, I found that their working process was systematic. They had people to record the meeting and also, to follow up on everyone's working progress, they would show this on screen (using an Excel table which depicted each person's progress, organised by project) and then discuss next

steps. They sometimes would have long discussions on some product problems or decisions, and they would finally let the project manager or the senior manager make the decision (The more relevant details about social interactions in non-family business is discussed in Section '4.2 Structural Links'). They respected the organisational system and there were few norms which could influence their interactions.

In Firm C, I also found that they relied on the organisational system and they did things just to follow the structure and their position. One of their employees (Mr. C1) said, "The way of working in this company is by the rules....if there is any problem, so long as I don't break the rules, I will be fine ....' There is almost no other relationship (relational links) which could dominate their interactions (For examples, in the family businesses, they might get other support from relational links. such as their relatives or classmates in the company).

In the non-family businesses, besides working routines, it is not easy to see other specific norms which affect their interactions. The influence of the 'father figure', a kind of norm which is strong in the family businesses, is not obvious in the non-family businesses (for discussions of 'father figure', see 4.1.1.3 Norms). The non-family businesses use rules and regulations to run the company, and the employees follow the disciplines and structures to deal with problems. In the family businesses, relational links (norms) could sometimes overlap the disciplines or rules, due to the power of the 'father figure' or other relational connections. However, in the non-family businesses, people follow organisational structure and it is not easy to see the effect of norms.

4.1.2.4 Obligations and Expectations

In the non-family businesses, the relationship between employees and managers is based on employment. The employees' obligations and expectations could come from their salary and position. For examples, in Firm B and Firm C, senior managers have more authority and receive better pay but also have to take more responsibility in their work. The employees have their own obligations and expectations. In the non-family businesses, their obligation and the expectations on them are rather simpler than in the family businesses. They take the responsibility and reach the target (expectations) based on their positions (salary). When I talked to an employee in Firm B (Mr. B3), he told me, "I just try to finish the work which has been arranged every day and go home earlier." In Firm C, I also found that they just worked to reach the target and tried to go home earlier.

Nevertheless, in the family businesses they have more obligations and expectations which come from their kinship. The company is like a shared life for the family. They not only feel responsibility due to their salary and positions but also through their blood relationship. The double obligations and expectations from their kinship make them work hard and take more responsibility for the company (for further discussion, see 4.1.1.4 Obligation and Expectation).

The discussions above have illustrated the influence of relational links in family and non-family businesses. In the next section, I turn to an analysis of structural links, which represent a different type of social capital and knowledge sharing.

4.2 Structural Links

In this section, I would like to discuss the effect of structural relationships on collective learning in family and non-family businesses. In the previous section, relational links were considered to be significant elements in social capital and collective learning (especially in the family businesses); however, structural relationships, which can be constructed within an organisation and can provide the basis for people's interactions (Burt, 1992; Nahapiet and Ghoshal, 1998), are also important in social relationships. A strong and symmetrical link, which is usually associated with the development of affective relationships (Nahapiet and Ghoshal, 1998), provides the primary access to resources. For example, the relationships between group leaders and group members and managers and colleagues are connected through the organisational structure. Furthermore, the structure also indicates someone's reputation or professional ability, which could give a form of endorsement of the people who are involved in developing a particular area of knowledge. For example, a job title could give a preliminary idea of a person's working specialisation. Therefore, the relationship could be developed if the people concerned have similar job titles or are in the same department.

Structural links are like an initial opportunity to get to know people, and relational links are those that develop after people have got to know each other. In the non-family businesses, as people generally do not have previous connections before coming to work in the company, it is structural links which dominate their social interactions.

The following sections discuss structural social capital in internal relationships in the two non-family businesses and the two family businesses. The discussion is based on three dimensions, namely network structure, network interactions and network ties. The first of these, network structure, means the configuration of the networks. A well-structured (not too loose and not too dense) network is more likely to have good connections and result in good communications and collective learning. The second, network interactions, means interaction between groups. If there is a mechanism to encourage conversation between different groups, this will help the contribution of new ideas. However, if there is no such mechanism, new knowledge will be difficult to create (Burt, 1992). Thus, the interaction of networks which could affect collective learning is the second element that I will discuss. Finally, there are the network ties, meaning the links within the networks. These discussions focus on interactions between individuals. A structural or deliberate connection could help in information gathering, even though the relationship might originally have been established for other purposes (Nahapiet and Ghoshal, 1998).

After the discussion of structural social capital in family businesses and non-family businesses, there follows an analysis that concludes this chapter's findings of social capital and collective learning in family and non-family businesses.

4.2.1 Structural Links in the Non-Family Businesses

4.2.1.1 Network Structure

The network structure provides a basic blueprint of network connections. The configuration of the network (for example, the density of the network, the connectivity of its links and the hierarchy of different levels, which would be associated with flexibility and ease of knowledge exchange) has an impact on the accessibility of the interaction between network members (Ibarra, 1992). As collective learning is an action by means of which people can learn and share knowledge together, the structure of the network could affect people's initial interaction. Burt (1992) also argues that a network with sparse relationships but few redundant contacts provides more information benefits (the structural hole, Appendix II). Thus, the configuration of a network plays an important role in information gathering. In the following paragraphs, the discussion focuses on the influence of network structure on people's interactions and then proceeds to look at the impact on collective learning.

In Firm B, I spent three weeks with the R&D people and attended weekly meetings with different levels. There are 37 people in the R&D Department and the groups are organised around products. There are about ten people in each group and each group has a group leader and a project manager (PM). There is a group meeting every week and also a meeting for all group leaders, project managers and some senior engineers every two weeks (see Figure 4.3).
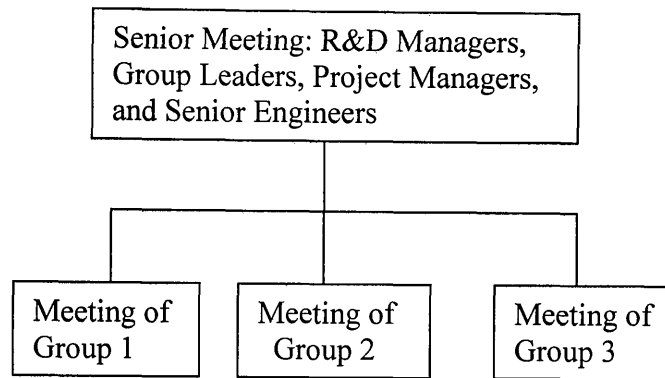
- Figure 4.5 Meeting Levels of Firm B -

I attended the meetings of groups 1 and 2 and also the senior group meetings. In group meetings Excel is used to record the meeting and show everyone's working process; and a secretary is assigned by turn. The secretary's laptop is connected to a big screen, so everyone can see the record of the meeting. During the meeting, every participant reports on the progress of their work and also presents their plans for the next step. As the plans they presented at the previous meeting can also be shown in the record of the meeting, then good or bad progress can be clearly seen. After everyone's report, the PM and the group leader present their points of view regarding the products. Sometimes there are arguments about some decisions, and if it is hard for group members to decide, then after the discussion the PM will make the final decision. As this is the only opportunity to present and understand progress, the meeting sometimes takes quite a long time (the longest one that I attended being three hours).

At the senior meeting, there is a person who takes a record of the meeting and this is also shown on the big screen. The PM reports to the R&D manager on the progress of the products and after each report the R&D manager asks questions and discusses the next steps to be taken. The length of the meeting is about one-and-a-half hours.

As progress is shown clearly during the meeting, it is easy to understand who is making good progress and who is not. The PM and the group leader are both responsible to the R&D manager for the progress of the whole group. Under this kind of the structure, although the group leader and PM do not issue any orders, people automatically make progress. The PM has the role of making suggestions, drawing attention to delays, making significant decisions and also having good connection with the R&D Manager; the group leader is mainly responsible for the skill-based questions (the technical problems of the products) and for organising the work of the group members. Most of the time, people sit at their desks doing their own work, but sometimes they have discussions with each other or with their group leader.

The network configuration in Firm B is similar to the form which Burt (1992) describes: namely, a network with more information benefits (a sparse network with few redundant contacts). Knowledge could be more diverse and from different sources. In addition, the method of presenting and recording meetings can help people to follow progress and also remind them of any delays. The information connectivity could have strong links. However, this kind of configuration may be accompanied by great pressure of work and this might require the organisation of social activities to maintain good interaction and assist the efficiency of this network structure. In Firm B, they have a softball team and some other social activities (for example, a stair-climbing competition) to ameliorate the intense work pressure.

In Firm C, they have a relatively small R&D team of 13 people. I also attended their weekly meeting and observed their network structure. There are usually two to three people in a group but sometimes the R&D manager will make small changes due to

the size of the project (for some larger projects, the R&D manager would arrange five to six people into a group). During the meeting, although they did not have a big screen to present everyone's progress, there was a secretary who reminded the meeting of where they had got to the previous week. In their daily work, they were usually busy on their projects and the people they usually talked to were their group partners.

Firm B and Firm C, although they have different sizes of R&D sections, both have similar characteristics in that their social interactions mainly rely on structural support. The people they usually talk to are group partners and they only discuss work matters. Besides this, in Firm B, they use social activities, another structural support, to enhance people's social interaction. In non-family businesses, social interactions provide few relational contacts but rely on structural contacts. The social capital in those businesses is therefore mainly developed from structural links and this difference might affect their collective learning and knowledge accumulation. In this chapter, I focus on illustrations of social capital. Further discussions and comparisons of the effect of social capital on collective learning in family and non-family businesses will be presented in Chapter Six.

4.2.1.2 Network Ties

The network structure shows the connectivity and density of the network. However, it is network ties that provide access for information transmission and help information gathering (Nahapiet and Ghoshal, 1998). A network tie could be as simple as a two employees within a company or as complex as two sectors of a whole industry.

Through the ties, information may be shared, communicated and collected more efficiently (Burt, 1992).

The group acts as a network tie that provides a basic opportunity to share and gather specific knowledge. In Firm B, the R&D people are divided into three groups according to different products. As the aim of the group is to make the most beneficial products, skills and knowledge of the products in terms of the provided tie (the group) is an access to be shared and developed. The example of Firm B's method of gathering knowledge through network ties helps to explain the value of this. During my observation, I found that workbooks are used to codify and connect knowledge ties within a group. In each group, everyone has a workbook in order to write down the progress of the product, especially the specific part that they are responsible for. One of the employees (Mr. B1) told me that this workbook was given by the company so they could record their weekly progress and any significant changes or decisions regarding the products. Sometimes they have informal discussions and if an important idea emerges, they also record this in the workbook. As their work is highly based on the accumulation of a series of logic and long process of thinking (for example, Mr. B1 said that "it usually takes more than two hours to think about the solution of a design problem"), it is important to take note of the key points of the ideas. Mr. B said, "it is useful, as sometimes you might forget the reasons for some ideas...., and also it can help us refresh some information that we discussed before."

In Firm C, people who are in the same group usually have a similar technical background as the groups are assigned mainly by their technical skills. Taking each group as network ties, they each represent a different knowledge resource for the

company. Although group members may undertake different projects at the same time, they are still able to discuss similar technical problems with each other. In Firm C, people who are in the same group sit together and this might also facilitate their discussions. Thus, network ties in Firm C are based on technical skills and the network ties use their technical background to connect individuals.

According to the relevant literature, when a network tie with good interaction, it is not only an access for knowledge sharing but also enables the acquisition or creation of new knowledge. Burt (1992) says that the benefit of network ties also includes having access to knowledge sooner than people without these contacts. The continuous and focused contribution to, and development of, specific knowledge could raise the speed of improvement. From an organisational competency view, the ability to gain the newest and most helpful information more quickly than other organisations is seen as providing the capability to surpass competitors. In addition, network ties could also help to identify specific skills. When the R&D manager or other senior managers have questions on one of the products or the projects, it is clear which group can explain or solve the problem.

4.2.1.3 Network Interactions

When the network structure has been built up and the network ties have been organised, it is important that the network has several activities or rules to maintain the interaction. The most frequent activity is the regular meeting. Both Firm B and Firm C have regular weekly meetings. This is the time to report everyone's work progress and also to help every group member to discuss and understand the problems

they are faced with. This compulsory routine could help group members to have connections with each other, especially for a new group where the members do not know each other well. Usually, after a period of time, they become familiar with each other and then more knowledge and information can be shared as a result of the established relationship (Burt, 1992). In Firm B, recording in the workbook, as mentioned in the last section, is one of the rules that is used to maintain good social interaction and knowledge connection in order to ensure continuous knowledge sharing.

In addition, in Firm C, they have a presentation by their group members every two weeks in order to keep collecting new knowledge. This presentation could be on anything related to their work or their industry. The R&D manager of Firm C says that it is a way to keep having updated information and also to develop their communication skills. When I attended one of their presentations, I found that every member of the audience would have to ask at least one question of the presenter and this sometimes inspired interesting questions and discussion. As the R&D manager said, "although the topic is not always exactly related to their work, it is a good opportunity to let them enjoy talking and discussing. Some of the people who are not good at expressing their ideas start to join the discussion in this informal meeting."

Social activities may also help the network interaction. In Firm B, as mentioned in the previous section, they have sports teams and informal competitions to enhance social interaction and maintain good relationships between employees. Their HR manager said that "it is an opportunity to provide a target or a co-operative mission other than their jobs. During these activities, some of the conflicts or misunderstandings which

have happened at work could be reconciled when they have other interactions which help them understand each other from other angles." Good interactions and relationships might help the employees' knowledge-sharing and collective learning. Although social activity is not seen as being of direct assistance in knowledge sharing, the focus on encouraging good interaction between employees helps to develop good relationships for communicating information.

Network interaction, which is considered a natural activity between people, could have greater benefits and efficiency in structural settings. The network structure and ties provide the opportunity for the primary interaction and links; the compulsory rules and the regular meetings or activities which help stimulate network interaction can further assist the tendency to knowledge sharing.

4.2.2 Structural Links in the Family Businesses

In the family businesses (Firm A and Firm D), structural links do not play as important a role as relational links. Their social interactions are based on the relational interactions, and the effect of organisational structure is not particularly significant. In some cases, because it is relational links that dominate social interactions in family businesses, relational social capital may sometimes influence the arrangement of organisational structure.

In Firm A, there are 10 people in the R&D department. Depending on different projects, the R&D manager would arrange different working partners. The working partners might change from case to case, and it is the R&D managers who decide who

is in the same team. As I talked to their R&D manager about how to arrange teams, she said that "it is by their strengths and their skills....and also I would try to put people who are familiar with each other in the same team." This could indicate that the effect of relational links on structural links. According to my observation, the employees mostly talked only to people whom they are familiar with, even they are not in the same team. Unlike in the non-family businesses, where it is network structure which structures people's connections, in the family businesses the network structure does not work strongly and people rely on their personal networks (those whom they are familiar with/relational links) to share their knowledge. The interaction of networks and the formation of network ties are therefore dominated by relational links, and social interactions are based on personal connections.

In Firm D, the network structure in the R&D department was divided into two teams - the hardware team and the software team.
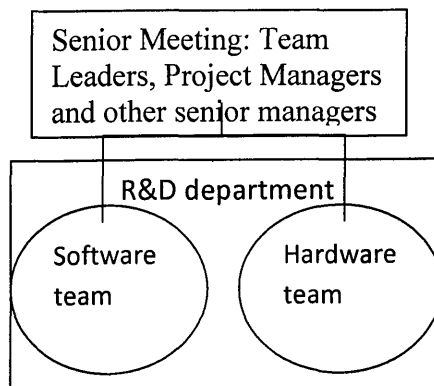
- **Figure 4.6 Meeting Levels of Firm D -**

In the R&D department, the software and hardware teams could be taken as the network ties. People in the same team have closer relationships and also they have intensive interactions within the team. Within the team, the team leader arranges the work for each member and everyone has their own progress which they need to report

every week. The scheduled network interaction is their weekly meeting. However, according to my observation, within the team, people actually have their own group and they discuss problems and share information only with certain people. The people they usually talk to are their old classmates/schoolmates or friends from before they worked in the company. In the family businesses, people take account of relational links; their structural interactions are also activated by relational links. Meanwhile, the effect of network structure is not strong, and it is relational connections which dominate social interactions in the family businesses.

From the discussions above we can see the influence of relational links in family businesses and the importance of structural links in the non-family businesses. The relational links are pre-determined and are not easily changed. With people whom they are familiar with, they will still share their knowledge with each other, even if they are working on different projects. However, people in the non-family businesses almost only talk to their working partners. This phenomenon presents the different social interactions in family and non-family businesses and also the different routes to their knowledge sharing.

In the next section, the focus is on the third dimension of social capital: cognitive links. The discussions, which include data collected both in the family and non-family businesses, explore the importance of cognitive links on collective learning.

4.3 Cognitive Links

Cognitive links which can facilitate the creation of intellectual capital (Nahapiet and Ghoshal, 1998) are able to affect people's knowledge sharing and combination capability. This kind of relationship may be revealed through their shared language, codes and narratives (Nonaka and Takeuchi, 1995; Kogut and Zander, 1992; Nahapiet and Ghoshal, 1998), especially in a large, complex organisation (Tsai and Ghoshal, 1998). From my observations in the four smaller IT companies, although I found no data which might indicate the strengthening of specific knowledge exchange or the constructing of specific cognitive social capital, I did find there were some interactions related to some codes and narratives which strengthened employees' connections.

In the family businesses, as I indicated in previous sections, the employees would use nickname (codes) to symbolise the family group (see 4.1.1.1 Identification). In Firm A, non-family people call the family group the 'big monster'; in Firm D, the family group is referred to as the 'upper floor' and the 'big boss'. They talk about the family group using these nicknames and these codes only to people in the same group. People who understand these shared codes could be taken as being accepted and trusted in the group and as willing to share things with each other. As people start to share or exchange information or context, it means there is more knowledge they are going to share (Boisot, 1995). Meanwhile, collective learning between group members could be improved by their cognitive interactions and also by activating their knowledge exchange. Thus, in Firm A and Firm D, their shared codes might not only indicate

their identification but also their cognitive interactions and their knowledge-sharing behaviour.

In the non-family businesses (Firm B and Firm C), in terms of shared codes and language, I discovered that they use some codes or abbreviations to represent the name of the product and their project context during the meeting. The codes and abbreviations are used and understood by every group member. Especially in Firm B, they use a projector to show everyone's working progress and they use codes in English to record their meetings. The codes could help them read things simply and also facilitate their group discussion (combination capability). Besides, using another language, which is a kind of knowledge sharing, can also stimulate their information exchange. Although these codes seemed to be used not solely in a particular group (I joined different group meetings and they all used the same codes to represent the same things), their shared codes and language illustrate their cognitive interactions and their behaviour in relation to knowledge/information exchange. In the non-family businesses, they might just use codes to symbolise or systematise their working progress, but in fact it also provides access to their collective learning.

To conclude, as the shared codes and language could motivate employees to exchange knowledge within a group, some codes or narratives might not be clearly related to business knowledge or exclusive information, but their shared codes have already demonstrated employees' willingness to share. Therefore, I believe, these shared codes could be implicitly associated with knowledge sharing, and some useful knowledge and information could be exchanged and circulated because of these cognitive interactions.

4.4 Findings and Discussions

In this chapter, there are three points that I am going to discuss. First, I would like to point out the different types of social interactions in family and non-family businesses. I do not focus on critically evaluating family and non-family businesses, but on presenting some differences between them. In the discussion of my empirical research, I talk about relational links and structural links both in the family and the non-family businesses. I find that relational links dominate the social interactions in family businesses, whereas structural links dominate the social interactions in non-family businesses. These different types of social interaction, which contribute to different dimensions of social capital, provide insights into the companies' different management methods and organisational structures. In family businesses, because from the beginning they already have more relational links (kinship), these might be used to gain and maintain people's relationships (for example, through relatives). In non-family businesses, the relationship is set up basically from the structural relationship. Relationships which are connected with fewer inherent relational links rely on structural support to maintain and enhance the social interaction.

Besides, when we analyse the effects of the various social links within these two types of businesses, I think it becomes clear that social links can, in this context, have both advantages and disadvantages for collective learning. In the family businesses, the relational links combine trust and reliability, which may assist in knowledge sharing and collective learning, but conversely, their strong links could also block information from other social groups. In the non-family businesses, as their relationships are built up through structure and have fewer relational obligations, they can collect knowledge

and information with fewer relational restrictions or boundaries. However, when people rely on structural links, it might sometimes be hard to have a relationship close enough to transfer in-depth knowledge. In order to provide a comprehensive discussion, in Chapter Six I will illustrate the learning and innovation process more precisely, with more specific stories and examples from family and non-family businesses.

The second key aspect is the influence of structural social capital and relational social capital in relation to collective learning. In this research, I found that structural networks play an important role in contributing to the relational network. The structure provides channels and opportunities to connect those individuals, so the relationships develop further, with relational links and interactions. Some social structures might be set up for another purpose, but become a resource for the current group (for example, a school is built for an educational purpose, but the alumni could become a resource for the business). Trust, norms, obligation or identification embedded in friendship, classmates, colleagueship and other relationships basically start from structural networks then providing an opportunity for relational links to be developed. Families and nations are also actually structured by social laws. Thus, I believe the beginning of an interaction is strongly affected by the existing structure. However, maintenance of the relationship is associated with both relational and structural links. It is important that the structural networks provide the appropriate routes and channels so that there can be good interactions within social networks (both structural and relational links). With good interaction within the company, collective learning and knowledge sharing can therefore be conducted easily and organisational development can be facilitated.

Thirdly, one needs to take into account the differences between the software companies and the IC design companies. As they are in different sectors, their resources and requirements are different. The clearest example of this is the number of R&D personnel. No matter whether they are family or non-family businesses, the IC design companies have a larger requirement for R&D people (IC Design: Firm B, 37; Firm D, 29 / Software: Firm A, 10; Firm C, 14). Thus the shareholders in the IC design company might need to provide more financial support. This increased need for external support was apparent in the case of Firm D (a family IC design company); the other family business (Firm A), which was in the software sector, was mainly reliant for support on the family itself. Although I did not have permission to examine their annual turnover, the volume *An Introduction to Taiwan's IC design Industry* (2006) notes the importance of the testing process in the sector and its time-consuming nature. As the testing process not only requires time but also special equipment and more people, these extra requirements might be the reason why IC design companies need more resources. During the period of observation, I also found that the IC design companies have a more intense working atmosphere. Comparing Firm A and Firm D with Firm B and Firm C, I found that the IC design companies (Firm B and Firm D) have a faster pace of work. This is especially true in Firm B, where during the designated lunch time, it was hard to find a person to chat with.

4.5 Conclusion

In this chapter, I have illustrated relational, structural and cognitive social capital with examples and data from family and non-family businesses. Relational links, which

emphasise tacit commitment and obligation, maintain the relationship with trust and norms. In family businesses, as the company start-up is a family group, their social networks, which are mainly based on the extended relationship of kinship, rely to a large extent on relational links. On the other hand, structural links focus on the structural relationship and maintain the relationship with structural activities and network configuration. In a non-family businesses, the business network, which is developed mainly through the structural approach, is characterised by less relational commitment. Also, cognitive links, which could be found both in family and non-family businesses, indicate the importance of shared codes/language/narratives on collective learning. These findings and differences, which I illustrate with observations and examples of internal networks, reveal different types and contexts of social interaction in family and non-family businesses.

Three key findings have formed the basis for discussion in this chapter. Firstly, I have highlighted the different social interactions in the family and non-family businesses and discussed the advantages and disadvantages of different types of social capital in family and non-family businesses. Family businesses might face barriers to identification as a result of their relational links (Child and Rodrigues, 1996), while non-family businesses might have problems achieving a balance between in-depth knowledge transfer and dynamic information (Burt, 1992).

Secondly, structural links are shown to be of significance. I think these provide the opportunity to construct social networks so that other types of social links, such as relational links, can have an opportunity to develop. Burt (1992) also points out that it is social structure that provides the access that allows one person to reach another.

Although some relationships such as those between classmates or kinship are largely maintained by relational links, even the family which is defined by social law (marriage law) is also in part a result of the social structure. Finally, as my empirical research was conducted in two sectors, the IC design and software sectors, I have examined some of the different conditions and resource requirements relating to these two sectors.

In the next chapter, in order to discuss further the effect of social interactions on collective learning, I will use guanxi theory to investigate more deeply the different conditions and social interactions in family and non-family businesses.

Chapter Five Guanxi and Collective Learning

5.0 Introduction

In this chapter, the discussion focuses on Chinese/Taiwanese guanxi and collective learning. Guanxi, considered as Chinese/Taiwanese social capital, is used to illustrate and explain the social networks in Taiwanese IT companies. In an earlier chapter, I claimed that theories which are based on western perspectives of social capital are unable to explain some aspects of social capital which are relevant to Chinese/Taiwanese culture. Thus, the theories of guanxi, which have been developed mainly by researchers in China, Hong Kong and Taiwan, might help to explain Chinese/Taiwanese social networks from a cultural perspective and in more specific detail. In addition, as the main topic of this thesis is to discuss the effect of social capital on learning, the connections between guanxi and collective learning will also be discussed.

Bian (2001) suggests that guanxi has three dimensions: guanxi as a web of extended familial obligations; guanxi as exchange networks of particular instrumental ties; and guanxi as social-exchange networks of asymmetric transactions. In the relevant literature on guanxi, many researchers have suggested that guanxi is heavily influenced by Confucianism (Jacobs, 1979; Hwang, 1987; Yan, 1996; Bell, 2000), which is a school of thought in Chinese culture. In the following sections, in order to present more comprehensively ideas about the development of guanxi, I will firstly recap some aspects of the theories which have already been mentioned in the literature

review. However, whereas the literature review focuses on illustrating the theories, I will here provide some more examples to discuss and explain the relevant concepts. The discussions will start from the origins of familial guanxi, Confucianism, and then continue on to discussion of the three dimensions of guanxi.

In the section which includes discussion of the empirical research, I use the three dimensions of the guanxi model to analyse the data and illustrate guanxi theories both in the family and non-family businesses. According to the empirical research, the family businesses are relatively strongly affected by familial guanxi; more relevant data from the family businesses is used to present the connections of familial guanxi and collective learning in Taiwanese software and IC design companies. On the other hand, instrumental guanxi, which might have less effect in the family businesses, dominates the development of guanxi in the non-family businesses. The connections between instrumental guanxi and collective learning will be mainly discussed in the non-family businesses. Finally, guanxi in asymmetric transactions, which can be found in both familial and instrumental guanxi, will be shown to be embedded within these two types of guanxi and to have an effect on knowledge sharing.

The final section presents the findings from, and further discussions of, my empirical research, including the different types of guanxi in family and non-family businesses, some insights into how guanxi theory relates to learning and also the influence of Taiwanese culture on guanxi development. These findings might identify the differences in Taiwanese social networks and might also help in the development of guanxi theory.

5.1 Guanxi as Part of Chinese Culture

Guanxi has been considered as a special relationship embedded in Chinese social networks (Lun So and Walker, 2006; Bian, 2001; Hwang, 1987). Although 'guanxi' literally means 'relationship' or 'personal connections', its essence is a network of dyadic ties that include the exchange of giving and receiving which is conditioned by rules and norms (Bian, 2001; Gold et al., 2002). This special network has been considered as connecting through familial/pseudo-familial obligation (Liang, 1986; Fei, 1992; Lin, 1989) or for instrumental benefits (Jacobs, 1979; Hwang, 1987; Walder, 1986, Yang, 1994). Lun So and Walker (2006) specifically mention the importance of the Confucian tradition which has strongly influenced the development of guanxi theory, and Hwang (1987) also notes that Confucianism is rooted in familial obligation. Thus, in this chapter, the discussion will start with the basis of guanxi, i.e. the Confucian tradition, and will then discuss the different models of guanxi. The discussion is aimed at understanding the influence of guanxi in Taiwanese family and non-family businesses and also how guanxi affects access to collective learning.

5.1.1 The Confucian Tradition

In Confucianism, it is believed that human relationships should be ruled by five moral principles (wu-lun). These are 'the love between father and son'; 'the obligation between emperor and liegeman'; 'the different responsibilities between husband and wife'; 'the respect between seniors and juniors'; and 'the trustworthiness between friends'. The scholars (i.e., Confucius and Mencius) believed that moral rules should be taught and are based on the family. If people understand that they must love, care

for and have responsibility for their family, they will understand they must give respect and trustworthiness to their colleagues and friends, and furthermore, have an obligation to the emperor. Confucianism is a school of thought that spread over a period of five thousand years, the society of that era was feudalism, and the emperor was the most important/powerful man. In current society, the emperor could be understood as someone who is a 'father figure' and has strong power or effect over you (for example, owners over employees). Figure 5.1 below shows this concentric relationship (also used in Chapter Two).
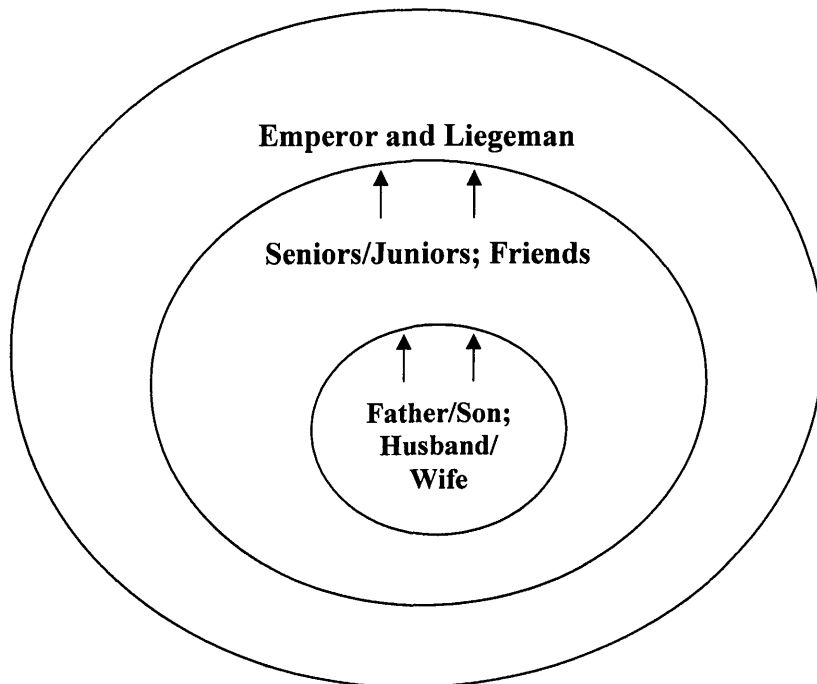
- Figure 5.1 Concentric Circles of Confucianism-

Thus, among Chinese people, the deep relationships between masters and apprentices and teachers and students are often interpreted as father-son relationships. Close friends would address each other as brothers or sisters. These close relationships

would tie people in a family-like relationship. Guanxi is based on this kind of relationship with family sentiment and obligation (Bell, 2000).

In studies that discuss how guanxi influences current social networks, there are several models that explain this in different ways. Some focus on the familial effects and some focus on its functional benefits. Bian (2001) summarises three models of guanxi: 'guanxi as the web of extended familial obligation'; 'guanxi as exchange networks of particular instrumental ties'; and 'guanxi as social-exchange networks of asymmetric transactions'. These will be taken as the three dimensions of the following discussions. In the following sections, I first introduce the models, and then proceed to discussion of my field work.

5.1.2 Three Models of Guanxi

5.1.2.1 Guanxi as the Web of Extended Familial Obligation

As mentioned above, guanxi can be considered as an extended familial relationship. According to Bian (2001) this school of thought, guanxi as the web of extended familial obligation (Liang, 1986; Fei, 1992; Lin, 1989), is based on the belief that the family is the core of the social structure and guanxi is an extension of familial ties and obligations. Liang (1986) agrees that it is familial sentiment and obligation which complement and reinforce membership of the family, creating a relatively harmonious structure which encourages cooperation within the family. This ethical relation is then extended into social networks and people with closed relationships will treat each other as family members. Lin (1989) conceptualises this phenomenon as 'pseudo-

families' and this is usually indicated by their intimate forms of address (calling each other 'sister' or 'brother', or 'uncle' or 'aunt' in the case of seniors). This shows that close relationships are related to the family and also to the family-centred concept in Chinese society. This intimate network usually starts from general social relations (for example, classmates, colleagues, business partners, etc.) and then, with frequent interactions, the relationship may be transformed into ties of great intimacy, which become pseudo-family ties if the members continue to recognise each other as intimate friends (Lin, 1998).

In developing sentimental (familial/pseudo-familial) guanxi, the interaction is based on an individual's reputation (Liang, 1986; Fei, 1992). The guanxi network lies in personal reputation, which means one might fulfil the moral and ethical obligations just to meet one's familial or pseudo-familial (family-centric) expectations. Thus, when intimate friends are asked for favours, those friends will perform the task simply because they recognise the family or the pseudo-family and feel they have an obligation to it and this obligation is reciprocal. This kind of obligation is understood as 'face giving' (gei mian zi) in Chinese (King, 1988). For example, if Mr. A helps Mr. B to gain or provide access to particular information, it means that Mr. A gives face to Mr. B, and next time, if Mr. A needs help, Mr. B should give face to Mr. A (helping Mr. A). Thus, with this strong obligation (face giving), guanxi influences people's resource sharing. For, example, Mr. C may get a job without any interview simply because his father has helped the employer before. As guanxi is based on familial sentiment and obligation, it could sometimes affect important decisions and become a strong resource for people's connection.

5.1.2.2 Guanxi as Exchange Network of Particular Instrumental Ties

In the second model of guanxi, guanxi refers to exchange networks of particular instrumental ties (Yang, 1994; Hwang 1987; Walder 1986). Guanxi is considered to be connected by the instrumentality of particular ties which could facilitate favour exchange. This kind of guanxi is not simply based on families or pseudo-families but includes a broad range of social and work-related connections (Bian, 2001). The network is built up for particular purposes and the network members recognise work or social benefits in each other. Although they might not have any deep feelings or obligations towards each other, they still maintain the relationship for work-related benefits.

This kind of guanxi, in terms of business benefit, may be found in the relationships of business owners or project planners with government or political parties. Walder (1986) claims that a good relationship with the government is a way of gaining more government resources. A government usually has the power to decide policy, and if, through guanxi, business people can get information about a new policy before its public announcement, they will have more time to prepare than their competitors. This could also affect the company's annual planning. Relationships with political parties could be a way of gaining access to government information. The process of reporting on a new product to the government or of applying for public support for it usually takes time. Guanxi with political officers might facilitate the reporting process (i.e., reduce the waiting time) and get the documents into the hands of the decision makers more directly. As guanxi is an exchange network, business people will then provide financial support for elections and also show loyalty to the political party.

This type of guanxi relies heavily on one's reputation for keeping promises and providing and returning favours (Bian, 2001). As stated above, the relationship is basically connected with the specific person who has some social reputation (e.g., business owners with political officials). A reputable person can usually be recognised as having various resources, so having a connection with people of high reputation can be understood as having access to their network resources as well. Yang (1994) argues that this type of guanxi is a game of reciprocity that is the binding power of social relations. Thus, networking guanxi is not only based on familial sentiment, but is also a method of combining and cultivating diverse resource ties for favour exchange.

5.1.2.3 Guanxi as Social-exchange Networks of Asymmetric Transactions

The third model, suggested by Lin (1998), emphasises that guanxi, whether with sentimental ties (model one) or instrumental ties (model two), can be defined as social-exchange networks of asymmetric transactions. Lin argues that social exchange, unlike economic exchange, is based on symmetric transactions. The rationale for economic exchange is mainly based on short-term transactions of resources, so it usually has a clear give-and-gain aspect. However, in contrast, the rationale for social exchange focuses on the long-term relationship and is usually a matter of continuous give-and-gain. The provider of resources on this occasion expects to receive resources on a later occasion, and the exchanged favour may be valued differently. For example, when business people donate money to a political party, then if the party wins the election, the benefits to the business people might be much more than the value of the money donated; however, if the party loses, the

benefits might not match their expectations. This is always the case with asymmetric transactions.

Lin (1998) states that, "it is the relationship that is valued and must be maintained, not the value of the favour transacted per se." The exchange of favour is just a tool to bridge the relationship and the key value is to access and gain the resources of one's networks. For Lin, this kind of mechanism operates in both familial and non-familial relations.

In this model of guanxi, the concept is strongly focused on the phenomenon of the exchange of favours. Face-giving (providing favour) means providing access to connections while face-receiving means having access to connections (Bian, 2001). Guanxi becomes a tool to facilitate network connection, and is understood as a bridge to one's resources. Both the obligation and sentiment of familial relations and instrumental relations can be understood as implying a willingness to maintain the relationship (no matter whether this is to meet an obligation or for instrumental uses) in order to preserve access of resources. As guanxi relies heavily on one's reputation, the accumulation of guanxi capital, with access to diverse networks, can also help build one's reputation. Wealth, in terms of guanxi capital, can also show success and high reputation in Chinese society. Consequently, developing guanxi is a crucial capability that affects social interactions in Chinese society.

According to the three models, guanxi can be understood as starting from familial relations, then later moving to instrumental ties. The third model gives a broad vision of guanxi as containing sentimental and instrumental relations with the key purpose of providing access to diverse resources to develop individual reputation. The first model

and the second model can be considered as developing guanxi from different bases but both with the same aim of cultivating personal reputation (the third model). However, I argue that it is the familial concept which influences Chinese social routines and social structures (emphasising familial (group) life) that makes for guanxi's importance and that should be stressed in any discussion of guanxi.

In the following sections, the discussion will concentrate on guanxi in family businesses and non-family businesses and also on connecting guanxi to the concept of collective learning. As, through my observation, I realise family businesses are strongly influenced by familial networks, while non-family businesses rely more on instrumental networks, the discussion of the differences between family and non-family businesses enables me to present the different social interactions in family and non-family businesses and also their influences on collective learning. Besides, the discussions which include the comparisons between these two types of business organisations can also facilitate further discussion in the next chapter (Chapter 6) of their learning and innovation processes.

5.2 Familial Guanxi

From the discussion above, we can see that guanxi is constructed from the Confucian tradition and developed with some modern concepts. Here, the discussion will be conducted through consideration of the main Chinese/Taiwanese cultural phenomena (based on Confucianism) that are related to familial/pseudo-familial guanxi development. These are the concepts of group culture, loyalty, humanity and

obligation. These elements, which influence the social interactions of Chinese/Taiwanese people, will be illustrated with data collected in the family and non-family businesses. The evidence will show the strong effect of familial guanxi on social links and collective learning in the family businesses.

5.2.1 Familial Guanxi in the Family Businesses

5.2.1.1 Group Culture

In Chinese/Taiwanese society, the concept of familial sentiment and obligation plays an important role in social interaction. People naturally like to build up a group with their close friends, and this group is their pseudo-family, with strong sentiment, obligation and trustworthiness. In Firm A and Firm D, I observed interactions within and between groups by observing people's working interactions, attending their meetings, having lunch with different groups of people and also having conversations during tea break. I found that their group culture is mainly influenced by the familial/pseudo-familial sentiment that dominates their interactions.

In Firm A, I found that senior management (the family group) form a specific group within the company. I have already mentioned their seating allocation (which is like the figure ⊓) and I think this arrangement is a reflection of the way the groups interacts. The family members' offices are located around other employees but they usually stay in their own offices and do not have much contact with the employees. The employees also have their own groups with close relationships. People who are in the same group go to lunch together, talk about their families and discuss wide-

ranging issues, sometimes even not relevant to work. They have, however, rather weak contacts with people who are not in the same group. One day I wanted to ask some questions of a lady (Miss A2) who seemed to be in charge of ordering some people's lunch. Miss A1, who was sitting next to me, said, "I do not quite know her, but I think it's all right if you just talk to her directly." However, although Miss A1 and Miss A2 sat quite near each other (with two seats between them), they did not know each other well and this might be due to their not being in the same social group. In addition, in Firm D, I found similar phenomena. The family group, which is situated on the upper floor, is recognised as a specific group within the company. People also usually have their own social group and they share many things, as they have lunch or tea break together. People who are not in the same group do not talk much, but they do have intensive communication with their fellow group members.

From the discussion above, because the company was started up by a group (the family) with a very close relationship, I think group culture in the family businesses affects social interaction quite significantly. The organisational structure is in some way influenced by this group culture and people like to have close relationships within a particular group, and feel the same kind of sentiments and obligations as within a family. Besides, some decisions will be driven by sentiment rather than by objective considerations. People there believe in sentiment as it provides feelings of security rather than instrumental capability. The family businesses tend to put close relationships first and business affairs second. The sentimental relationship makes them believe that they can have some priority just like the privileged offer to family members. Thus, people like to gather in particular groups for sentimental reasons, their relationships are strengthened through trust and reliability. Group members feel

safer and trust each other. In addition, group members are more likely to share many things without thinking about the business profits since they regard each other as pseudo-familial friends. I believe this kind of group culture (taking group activity or group members as the main and most important social relationships) affects the interaction within Chinese/Taiwanese society significantly. Familial guanxi which is developed via group interaction could be understood as the special sentimental relationship within the group and is important in Chinese/Taiwanese social relationships.

Groups could have been built up for different reasons, but they frequently have strong ties of sentiment and obligation to each other. These groups could be based around people of the same age, the same department, alumni from the same institution, same gender, same position, and also from the same families. Joining a particular group could demonstrate a person's values and self-identity. People who want to have a close relationship with alumni may wish to show that they believe education can significantly affect people; those who want to join groups with the same interests may want to show their abilities outside work. Although the reason for forming a group may differ, these groups share some characteristics in common with familial/pseudo-familial relations.

With the security of close relationships and a high degree of trustworthiness, group members feel safe and free to exchange information and knowledge. Because of sentiment, they forgive mistakes made by other group members; due to obligation they assist group members when they need help. In addition, they may have formed the group on the basis of being the same age but then have become closer due to

having the same interests in sport. Group members may discover they have similar values or opinions on particular issues, and these beliefs and values could become instrumental in gradually strengthening their relationship.

However, understanding the complexities of sentiment and obligation may be difficult, as these familial relations mainly come from Confucianism. Exploring some of the central ideas of this school of thought may help us to understand this and make connections to group culture.

5.2.1.2 Loyalty (Zhong)

In Confucianism, the family is the core of the social structure and it is believed that the whole of society is actually an enlarged version of the family. Thus, some of the central ideas in Confucianism, extracted from familial relationships, are found more generally in Chinese/Taiwanese societies. 'Loyalty' is one of these concepts from Confucianism. This concept means being true to and sincere with people, and supporting and treating people without any cheating or disloyalty. In the past, it was used as a moral principle between family members and between friends, and was further used to indicate people's feelings for the country and the emperor. Loyalty to the country/emperor consisted in the absolute respect shown to the emperor, and the strong identification of being a national people, willing to defend against invaders and showing strong sentiment in the presence of people from other countries. Showing loyalty to the country and to the emperor became part of the personality of the Chinese people.

After the end of the imperial era, this kind of sentiment to the emperor did not exist in the formal institutions, but still lives on in Chinese society. In organisations, loyalty can be found in the relationship between employees and senior staff. In groups, friends stay only with particular people and share many things together, including information and knowledge exchange; they work with respect with senior people, and take their knowledge and information as correct (follow their advice).

In addition, workers prefer to stay for a long time with the company. Although comparison of the annual turnover of employees (2006) in Firms A/D and Firms B/C does not show any great difference, Firms A and D have a relatively high number of senior employees. Also, in the interviews with their HR managers, both mentioned that they have some employees who had worked in the company for more than five years. These workers have chosen to stay because of group sentiment and familiarity with the job. I talked to one of the senior employees in Firm D (Mr. DS) who said he was satisfied with the current environment; if he went to another company, it might not have the same kind of people and have good interactions. In Firm A, the HR manager also said they had some employees who had worked in the company since the company was founded. These senior employees who have been recognised as parts of the family group like to stay and will also introduce their relatives to come to work in the company. "Besides feeling satisfied with the current work, I believe they also have a kind of sentiment and commitment to the company," said the HR manager.

This kind of sentiment, loyalty (zhong), may in some way support collective learning. Broadly, it means that the strong allegiance to the whole country has become attached in modern times to the company or to groups. From a narrow perspective, it means

true-hearted interactions between people. As collective learning requires people to share knowledge and learn together, with loyalty they are more able to share things and feel safe in exchanging information within the group. Although interaction between groups may seldom occur, the strong interactions within the group may facilitate collective learning and knowledge sharing within the group.

5.2.1.3 Humanity (Ren)

Most researchers on Confucianism take 'humanity' to be the most important concept. First, it means selfless love for family members; to love your parents with filial piety and to love your brothers and sisters with respect and care. There is a belief that, with this love in the family, people will then understand they must care for and love people in society. Thus, 'to be kind-hearted to people' has become one of the most important moral principles in Chinese society.

Confucianism particularly emphasises two key approaches to expressing this concept of 'humanity'. One is "to support people who would like to achieve success then you will get success". This is the belief that, before hoping people will help you, you should first help people. If you understand this and are able to help people, you are on the way to success. This is a kind heart that puts other people first and oneself second. As you are willing to help people, your success accumulates gradually and broadly. The other approach is "Do not do to others what you do not want to be done to you". This reminds people to consider other people's position and think about other people's perspectives. We should avoid doing to others things that we do not want to happen to ourselves. Confucianism believes that people will treat you the same as you treat

them. Thus, we should keep kindness towards other people in mind; good interactions between people might then be maintained.

This concept influences Chinese people's social interaction and is embedded in people's personality. Although Confucianism has been in existence for thousands of years, it still affects and dominates Chinese social networks (Hwang, 1987; Yang, 1994). Nowadays, in Taiwan, Confucianism is still an important part of education that every high school student has to study. One of the examples of this is the modern Chinese/Taiwanese social norm, 'rationality above rules, but sentiment above rationality', which means there is still some flexibility in terms of personal situations, of going beyond the structured rules. When Chinese/Taiwanese people face a unique situation or an unusual issue (for example, unexpected promotion or a temporary emergency), especially regarding friends or people with a close relationship, they understand their friends' or group members' decisions even if they do not consider them right objectively. For example, when I was in Firm D, I discovered that some hardware people frequently arrived late at the office. People in the same team (hardware) told me they must have worked late the previous day, so one should be considerate of their hard work, although sometimes they do need to be in the office on time. I also mentioned this phenomenon to the HR manager, who said that if the employees were not more than an hour late, then this was acceptable. The HR manager understood that some employees preferred to work and sleep late, and, as long as they still performed well, it was not necessary to ask them to be in the office at 9.am. It is also very important for employees to have a good attitude to work and maintain a good relationship with them. Thus, within the acceptable range, providing some flexibility that takes account of people's individual circumstance could show

that ren (kindness) plays an important role in Chinese people's interaction and in sustaining good relationships with people.

In Firm A, I was very much aware of them when I started my observation in the R&D group. They bought me lunch and also kept coming to ask me if there was anything I wanted to know. I felt that they wanted to become familiar with me and they used this intensity of caring to show their kindness. I think this attitude could really make people feel good and encourage them to want to share things. Because they care for you, and show regard for your feelings and situation, communication and information sharing could become easy.

Willingness to help other group members could facilitate collective learning within the group. If people want to help each other and understand the benefits of behaving humanely towards one another, their motivation to share knowledge and information may be enhanced. This attitude of kindness could therefore help to promote collective learning within the group. To work effectively, collective learning requires that people understand the importance of accumulating and sharing knowledge. So being kind in supporting others (for example, by sharing information) could in some way help to deliver the idea of learning collectively.

5.2.1.4 Obligation (Yi)

'Obligation' is also one of the concepts that Confucianism promotes as an important attitude towards people and which combines the ideas of harmony and duty. As Chinese society is based on creating a harmonious structure (Liang, 1986), the

relationship between people is strongly focused on maintaining balanced interactions with people. From this perspective it is very important to understand that people do not live alone but in family and other social groups, so any decision we make should not only be good for ourselves but also comfortable for other group members. It is important to have good balance in any social interaction. In Confucianism, it is thought that making people listen to other people's opinions, and learning to meet an obligation, are the first steps in creating a harmonious society. As people naturally have their own ideas, through understanding the need to meet an obligation, people will start to listen and accept ideas from other people.

This idea was always used by the emperor to rule over people, making them obey and understand their national obligation; and now the concept still operates in the family and other groups (for example, companies). Following this concept, group members are willing to meet their obligations and understand that those obligations are used to maintain good relationships with group members. Through jointly constructing obligations and having the same targets or mission, people are more likely to identify themselves as being in the same group; with regular interactions, group members might have closer relationships and more intimate links. Besides, based on the concept of considering other people's feelings, people might accept the idea of 'providing' obligation and understand that these obligations will help to maintain good relationships within the group. Thus, in Chinese society, people take fulfilling an obligation as an important action which could maintain sentiment within groups.

Guanxi is mainly related to favour exchange, and providing favours is sometimes felt as an obligation, deriving from the sense of identification that the favour provider has

with the group or with particular individuals. In the previous section, I stated that familial sentiment and obligation are usually centred on particular people and it is particular people's reputations (individual reputation) that show their guanxi resources. This kind of concept comes from the family. In traditional Chinese culture, the father in a family acts as a representative of the whole family and family members listen to the father's ideas and support the father's decisions. So in social groups, there is usually a person or some particular people (father figure) who are representatives of the group, and the obligation to provide support or favours to the group representatives is like the obligation of supporting father in a family. Thus, the interaction of guanxi which contains familial or pseudo-familial obligation shows the strong sentiment embedded in familial/pseudo-familial guanxi.

In my research, this familial obligation was observed more frequently in the family businesses (Firm A and Firm D) than in the non-family businesses (Firm B and Firm C). When I interviewed the HR manager of Firm D, she mentioned the importance of the company to the family group. I found that the obligation between family members in senior management, which encourages them to work for the best profits even in difficult times, shows the tacit power of sentiment and obligation in the family. The GM of Firm A also stressed that, "I think, for family members, the company is not only a business for earning money but also a community property with familial sentiment...They would make all efforts to produce a better performance by the company, especially in a tough period." This strong familial sentiment and obligation which are embedded in family member's relationships make family members, who are like the only stable resources or inherent networks, provide favours and help each other in any situation.

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In addition, in collective learning, which revolves around people sharing and exchanging knowledge together, this kind of familial/pseudo-familial obligation might be considered as facilitating knowledge sharing. Since people who are in the same group will think that supporting each other is a form of obligation of being a group member, they will then be more likely provide knowledge and information to one another. Meanwhile, within the groups, knowledge exchange and sharing may operate more easily because of this commitment to obligation and maintaining harmony.

5.2.2 Familial Guanxi in the Non-Family Businesses

In the non-family businesses, familial guanxi is not easy to detect. This could be because the companies do not have extra relationships (such as kinship) and also because the fast turnover makes it difficult for them to build up familial/pseudo-familial guanxi. People in the company did not engage only with a single group, and it is hard to see whether they had familial/pseudo-familial relationships. In the non-family businesses they did not tend to use familial interactions to build up their relationships and also they were not like family businesses which were connected by their kinship. Although the concepts of familial sentiment and obligation take account of Chinese social interactions, in the non-family businesses, people work through structure. There are also no previous connections to help them become more familiar with each other. Thus, the effect of familial guanxi on collective learning in the non-family businesses is rather weak and not significant.

5.3 <u>Instrumental Guanxi</u>

In this section, I will analyse instrumental guanxi in both family and non-family businesses. In the non-family businesses, instrumental guanxi influences employees' social interactions more significantly than in the family businesses. Thus, in the following sections, the discussion will be based on the empirical research in the non-family businesses, with illustrating how instrumental guanxi operates within those businesses.

5.3.1 Instrumental Guanxi in the Non-Family Businesses

Instrumental guanxi is defined as the instrumentality of particular ties that facilitate favour exchanges (Bian, 2001). In this idea of guanxi, the goals of social networking are not only to extend ties of familial sentiments but also to cultivate ties with diverse resources for mutual favour exchanges. This kind of networking, instrumental guanxi, can be found in different types of favour exchanges, taking place in various settings.

Walder (1986) identifies three types of instrumental ties that shaped work life in Mao's China: those between state planners and factory directors, party officials and political activists and shop-floor supervisors and ordinary workers. The resource of a state planner for a factory director is based on premier information and economic resource; the benefit of showing loyalty to the party officials is having better career

opportunities; and the advantage of having a good relationship with shop-floor supervisors is obtaining favourable work arrangements. These phenomena show that instrumental ties are based on 'knowledge/information', 'capital' and 'administrative power'.

As a result of my observational research and also the relevant literature (Walder, 1986; Yang, 1994), I think instrumental guanxi can be found in three social ties: between seniors and juniors (knowledge); owner-managers/group leaders and employees/group members (administrative power); and capital receivers and capital providers (capital). Between seniors and juniors, the main favour exchanged is knowledge; between owners/group leaders and employees/group members it is administrative power; and between capital receivers and capital providers it is capital.

5.3.1.1 Seniors and Juniors (Knowledge)

In this social tie, the main exchange resource is knowledge. Between seniors and juniors, the relationship is usually built up by *problem asking* from juniors and *solution providing* from seniors. In companies, getting advice from a senior is usually the fastest and most basic method of finding relevant information. Juniors who usually need seniors' help maintain a good interaction with seniors. If seniors have worked in a company or industry for a long time, then their experience becomes a huge resource, the benefits of which lead juniors to develop a relationship for future favour asking. As instrumental guanxi is based on reciprocity of interaction (give and receive), senior people can receive respect from and gain reputation with junior people through

providing knowledge. In this kind of network, the relationship is maintained not chiefly through sentiment but by favour (knowledge) exchanges.

When I conducted observations in Firms B and C, I found that newcomers or junior people were usually settled in with one or two senior people. Those senior people who have relevant technological skills and experience provide information and knowledge to juniors. After the interview with Mr. B2, a senior employee in Firm B, I concluded that the relationship between Mr. B2 and the juniors was based mainly on knowledge exchange. Mr. B2 said he needed to provide ideas to the juniors as they did not have much experience in the company. After he had talked several times with the juniors, some of them would maintain a relationship with him in order to ask questions about working projects or particular skills. Those juniors were usually doing the work which Mr. B2 had done before or which was relevant to his field of work. Mr. B2 would also share ideas with juniors and sometimes he found he could also learn from the juniors. Mr. B2 said that knowledge sharing involved interesting interaction. Although they did not have much experience, juniors would sometime help him to think about things in different ways. I also think that being respected and having some reputation may also encourage seniors to help junior people. (In Chinese/Taiwanese society, as I indicated in the previous section, the idea of individual reputation, which might make a person put effort into building their own network, can demonstrate their diverse resources and social reputation.) As both sides (seniors and juniors) receive resources (knowledge and reputation) and also provide knowledge to each other, this relationship could be recognised and maintained as a necessary relationship for both of them.

In instrumental guanxi, it is reciprocity (give and receive) that dominates the relationships (Hwang, 1987; Yang, 1994). People who wish to establish a relationship with particular individuals do not provide resources without any expectations. They look forward to some return, which could be an exchange of the same thing (for example, knowledge exchange) or just to improve their own reputation and gain some respect. For senior people, they not only understand that juniors can provide some new ideas but also that they may enjoy respect from juniors. For juniors, they need senior people's experience and ideas, so they have to show respect to seniors in order to make those seniors feel comfortable about having a relationship with them.

5.3.1.2 Owner-managers-Employees and Group Leaders-Group Members (Administrative Power)

In this social tie, the main resource exchanged is power. Owners/group leaders who are in specific positions are representative of certain levels of power. Employees/group members need to maintain good relationships with owners/group leaders because they have power to decide on workload, future position and access to organisational resources. In order to make a good impression and to gain access to owners' or group leaders' resources, employees or group members display better manners in the presence of owners or group leaders. In some cases, where employees have the same level of ability, a person who has a good relationship with the owner or group leader might have more opportunity to gain promotion or other organisational resources (for example, being sponsored through further education). Thus, through my observation in the non-family businesses (Firm B and Firm C), I believe that their guanxi, which is for instrumental purposes, has a functional basis. Employees would

like to maintain a good relationship with owner-managers in order to have extra opportunities for their future career.

In this kind of instrumental guanxi, relationships which are developed through organisational structure and power exchanges affect the use of organisational resources. As owners/group leaders can decide on the organisation of work and positions, some specific action (perhaps in the form of gifts or extra favours) from employees/group members will usually be understood as being for the purpose of future employment benefit. Some owners/group leaders who accept employees/group members' favours consider this kind of behaviour as necessary, considering that it is an action that shows how much the employee cares about their future and work. The owner of Firm B emphasised that it is important for your future plans to show an aggressive attitude. Sometimes the favour does not have to be a gift but just extra help which could also show your devotion to the job or to the group.

Thus, owners/group leaders and employees/group members form a social tie connected mainly on the basis of the power of administration. In order to maintain a good favour exchange, both sides understand that a special action or attitude could bring extra promotion or other favours in the future. To maintain special guanxi is as important as working hard and is necessary in Chinese/Taiwanese companies.

5.3.1.3 Capital Receivers and Capital Providers (Capital)

This third form of instrumental guanxi relates to any relationship that is based mainly on financial capital. In a company, guanxi of this type could be as simple as the

relationship between employers and employees (paying a salary) and as complex as the interaction between companies and shareholders. Between employees and employers, employers pay for employees in order to make a profit for their company; between companies and shareholders, shareholders provide capital in order to earn more money from companies.

In this type of guanxi, the favour exchanged is money and companies rely on this kind of favour exchange to continue in business. Mr. B3 from Firm B, who was recruited from another company, said that the good working environment and good pay were the reasons that made him come to Firm B. The owner of Firm C said that nothing is more important than to recruit an employee with the ability they need, saying that, "Even if we have to pay more, having suitable employees in the company could bring as much as double benefit for the company."

In addition, there are some special connections between capital receivers and providers to help maintain capital resources. These special connections can be seen in social life or other activities. The most frequent activity is joining a golf club. The owner of Firm C mentioned that this represents an opportunity to have a regular relationship with business people. He said, "You do not know when you will need them, but it is important to know where your resource are when you need help." Playing golf could be also a signal of co-operation. If an owner or senior manager confides that he/she frequently goes to play golf with someone, it may indicate that possible plans for co-operation or other business activity between them. As capital is one of the most important resources for operating a company, having a good relationship with rich people also demonstrates competitiveness.

5.3.2 Instrumental Guanxi in the Family Businesses

In the family businesses, it is familial guanxi that dominates their social interactions. I discovered that their instrumental guanxi is embedded in their familial guanxi. I will be looking at how this works in various relationships: between seniors and juniors; between owner-managers or group leaders and their employees or group members; and between capital receivers and capital providers.

5.3.2.1 Seniors and Juniors (Knowledge)

In the family businesses, relationships between senior and juniors within the group start from familial/pseudo-familial sentiment: they share knowledge and exchange favours because they believe in their group. The seniors are not only providing knowledge to the juniors, but also showing that they care about them. It is like older brothers/sisters caring about younger brothers or sisters. The seniors provide knowledge to help the juniors and the juniors are expected to be good listeners or followers. They believe in the power of group and stay with it because of loyalty, humanity and obligations. When I was in Firm A, I found that senior people would actively go to ask juniors if they had any problems. Both in Firm A and Firm D, I myself (who could be taken as a junior in the companies) felt I was being cared for as a group member by the seniors (they would ask whether or not I had ordered lunch and whether there was anything they could do to help with my research). They proved

enthusiastic about getting to know me and even asked me to go out with them in their leisure time. This did not happen in the non-family businesses. Thus, I argue that instrumental guanxi in the family businesses is embedded in familial guanxi and is based on their sentimental connections.

5.3.2.2 Owner-managers-Employees and Group Leaders-Group Members (Administrative Power)

The relationship between owner-managers or group managers and their employees or group members can be broadly understood as being a relationship between those in higher and lower positions. Since the senior management in a family business is controlled by the family group, the relationship between those in higher and lower positions is similar to a relationship between family and non-family people. For the family people, employees or group members (non-family people) are part of their company and they provide jobs and positions to satisfy their requirements. For the non-family people, family members are regarded as being like another group and as providing the working resources and benefits.

Another key difference in the family business is the importance of the 'father figure' which dominates their administrative relationships and sometimes means that family members are given privileges. People in lower positions would naturally listen to those higher positions. In both Firm A and Firm D, I found that during meetings they usually listened only to the plans and progress scheduled by the group leaders. This phenomenon might come from their belief in the 'father figure'. It was similar to being in a family where family members usually listen to the father's opinions

(obligations). Meanwhile, reciprocity (give and receive) might not be clear, and employees are affected by familial sentiment/obligations. Thus, in the family businesses, their administrative exchange not only comes from instrumental guanxi, but also from being influenced by familial sentiment/obligations.

5.3.2.3 Capital Receivers and Capital Providers (Capital)

Within the family businesses, interactions between capital receivers and capital providers can be found between employees and employers. The employers provide salary to the employees, and the employees provide skills and knowledge to help the employers increase the company's income. The employers might provide other welfare benefits to encourage employees to work hard and produce high quality/quantity products. Mr. A2 from Firm A said that, "working is part of life and it is just, you give and then you receive." The HR manager in Firm D said that "we definitely provide satisfying pay because it is a basic requirement for most of the employees."

Besides these instrumental interactions, the familial/pseudo-familial relationships in the family businesses mean that it is sometimes not just money (capital) that motivates people to work. In some cases, the employees work not purely for the money but for the passion of 'supporting' the company. Especially for people from the family group, they work in order to continue their family businesses and to support their relatives in running the business. In Firm A, when I talked to their general manager, he told me that "my family people supported me pass over the difficult time." In Firm D, when I talked to one of the family members (who work with the HR manager) about working

in the firm, she said, "sometimes you might want to seek a better position in another company... but here is home and... I don't think I can leave because they would feel disappointed."

In the family businesses, the influence of familial sentiment is strong and significant. Though instrumental guanxi is part of their interaction, most of the time it is familial guanxi which dominates their relationships and keeps their connections going.

5.4 Guanxi as Social-Exchange Networks of Asymmetric Transactions

In order to maintain relationships, Lin (1998) suggests that social interaction is not like the symmetric and short-term transactions of economic exchange, but is an asymmetric and long-term relationship. As in social interaction it is difficult to identify who provides more favours, the relationship is usually maintained by 'paying favours back' and 'receiving favours back'. One big favour for the favour receiver (for example, Mr. A) may make him pay favours back through helping the favour provider (for example, Mr. B) several times. Mr. B will remember that Mr. A has helped him several times, so Mr. B will keep providing favours if Mr. A asks for favours again. In addition, the favour may be a small matter for Mr. B but very important for Mr. A. It seems to be an asymmetric transaction if Mr. B provides one small type of help but receives many favours in return from Mr. A, but the added value of the favour that Mr. B provided may be great for Mr. A, and it is therefore difficult to define per transaction whether it is equal or not. The asymmetric transaction is embedded in a social relationship. Besides, it is asymmetric transactions that allow the relationship to

continue, because one of the parties involved will always feel that he/she has under- or overpaid (for example, Mr. A would like to return favours to Mr. B since he feels he has received many more favours from Mr. B) and this will make them want to keep the relationship going in order to be able to return the favour.

Lin (1998) considers that guanxi consists of social-exchange networks of asymmetric transaction within long-term relationships, which are based on sentimental and instrumental uses. According to the definitions of guanxi, a sentimental relationship is constituted by links of loyalty, kindness and obligation; an instrumental network is constituted by knowledge, administrative power and capital. Sentimental links are hard to quantify and usually exist in tacit interactions that cannot be measured and that might easily result in asymmetric transactions. On the other hand, although instrumental ties are relatively clear regarding resource exchanges, it is still hard to decide whether the exchanged favours in a long-term relationship are fair. Thus, asymmetric transactions, which are embedded in guanxi, display some characteristics that can be found in both sentimental and instrumental guanxi. In this section, based on Lin's conceptualisation, I will discuss why Chinese guanxi is realised as asymmetric transactions and how this operates in Chinese/Taiwanese business. The examples are from my empirical research in Taiwanese family and non-family businesses in the software and IC design sectors.

5.4.1 Sentimental Basis

The asymmetric transaction in sentimental guanxi is different in character from instrumental guanxi, in that it emphasises sentimental return but not instrumental

favour. The favour provider who provides his favour based on sentimental guanxi expects the favour receiver to show respect or appreciation rather than to return another favour. When I interviewed Mr. D1 in Firm D about knowledge sharing, he said that if people come to ask him questions, he likes to provide whatever information he can. He does not think that one day he should receive information in return, but simply wants to provide information on anything he knows about. Mr. D1 has stayed with Firm D for four years and I discovered that other employees like to work with him and respect his professionalism. I think that it is this sentimental support (humanity and identification) which makes Mr. D1 provide information without thinking of favours in return. Other employees might also understand that they seldom have the opportunity to provide useful information to Mr. D1 but they use this sentimental support to maintain the relationship in order to keep this resource. It might be understood that sentimental guanxi enables the combination of some tacit affections which could make a person work and continuously provide information or resources. In this kind of transaction it is difficult to define who gains the better favours (as in the previous example, Mr. D1 provides knowledge and the others provide respect) but it is apt to maintain the relationship.

5.4.2 Instrumental Basis

Lin (1998) considers that instrumental favours are essentially like tools for maintaining a relationship; the main purpose of maintaining instrumental ties is to preserve the resource of guanxi. As guanxi can show a person's reputation and networks, instrumental action is sometimes just the means of bridging and maintaining the relationship. In Chinese/Taiwanese culture, in order to have a good reputation, it is

important to have broad networks and important social resources. Thus, some provision of favours is used to maintain the relationship for the future but not with the expectation of an immediate return of favours. When I was in Firm B, during the interview with Mr. B1 we talked about the relationship with the R&D manager and with senior people. He said that keeping a good relationship with those people was intended to secure his position and access to resources in the future. He believed that these good relationships could facilitate his career development, and even if he subsequently goes on to other companies, these networks with R&D managers and senior people might help him to have better opportunities. In this case, apart from the value of each favour, it is hard to recognise the benefit (Mr. B1 works hard to maintain the relationship in order to have good career resources; working hard and career resources are hard to define if they have equal benefits). Mr. B1 maintains these relationships for the future uses, which can be defined as asymmetric in current observation (since we are unable at this point to measure how far or whether this relationship is helpful).

A second example is found in Firm C, where I talked to one of their R&D employees, Miss C3, about the relationship with the R&D manager and other employees. She said it was important to have a good relationship with colleagues: "Besides, sometimes I might need help from them – the R&D manager and other employees who can decide the use of the departmental resources are the important people so you need to have a good relationship and keep a good image with them.' She said, "for example, as now I want to have an opportunity to get support to attend a training course in the professional school, I therefore have to try to maintain a better relationship with the R&D manager. Although sometimes the manager would ask me to deal with some

work which should not be mine, I am also alright to do the favour in order to keep a good relationship with the R&D manager." In this case, the relationship also shows instrumental and asymmetric guanxi. As Miss C3 tries to have a good relationship with the R&D people in order to obtain the benefits which are controlled by them, it is also hard to recognise whether this relationship, which is maintained for functional purposes and for future benefits, is a symmetric exchange or an asymmetric one (whether or not Miss C3 will really gain the opportunity to attend the training class or obtain some other benefits in return after providing those favours).

To conclude, it is hard to define the value and immediate effect of favour exchange in the case of asymmetric guanxi with an instrumental basis. Although, compared to sentimental guanxi, instrumental guanxi involves more visible favour exchange, the effects and future advantages of the exchange of favours are still hard to recognise. This then places instrumental guanxi into the category of asymmetric transactions.

5.5 Findings and Further Discussions

From previous discussions in this chapter, we can understand that guanxi, which has been recognised as social resources that can facilitate people's networking, has been developed from Confucianism and is woven into Chinese/Taiwanese culture. In sentimental/familial guanxi, the relationship is based on the tacit interactions and is developed in line with moral principles and social norms. In instrumental guanxi, the relationship which is developed for a functional purpose emphasises the benefits of exchanges through network interactions. These discussions provide examples and

illustrations of how guanxi works in Chinese/Taiwanese companies and also the effect of guanxi on social resource exchange and collective learning. However, I argue that several phenomena which are seldom discussed in guanxi theories but which have significant influence on guanxi should be considered in this chapter. These findings are based on observations in my field work and I regard them as also affecting collective learning, due to their influence on social interaction. In addition, I provide discussion of the comparison between family and non-family businesses regarding guanxi. This discussion presents the different cultural effects between family and non-family businesses and also provides an initial understanding of the different social interactions in these two types of businesses, which will facilitate further discussions of their collective learning and innovation processes in the next chapter. Thus, in the following discussions, there are several points and findings which are significant for this thesis and some relevant evidence and examples will also be introduced in order to provide clearer illustrations.

5.5.1 Guanxi as Based on Authority

Individual reputation from the imperial era

The power of individual reputation which seems essential in Chinese/Taiwanese guanxi can be traced to the power of the emperor. As has been explained, guanxi is dominated mainly by individual reputation and that the concept of guanxi also emphasises cultivating personal reputation. A connection between two social ties by guanxi is usually representative of a connection between two people's reputations. I consider that this effect of individual power could be related to the power of the

emperor. For a long period of time, Chinese society was ruled by imperial authority and this kind of personal power spread from the family to the whole country (the respect to father extends to the respect to emperor; also see the discussions in section 5.1). In the family, family members have to respect the father or older brother, who has the power of controlling the main decisions within the family; in social groups, there is always a leader who should be respected and group members will take his/her ideas seriously; for the country, people should obey the emperor's policy and be loyal to the emperor (see Figure 5.1). Thus, in traditional Chinese society, people naturally accept orders from leaders and senior people. Personal power is rooted in Chinese culture and it therefore affects the interaction of guanxi. Given that some of guanxi literature argues that guanxi is heavily dominated by ego-centricity (Fei, 1992; Bian, 2001), this explanation of imperial power might explain this phenomenon more precisely. In the following paragraphs, I will provide data from family businesses to show this phenomenon, with examples.

In a family business, as I have mentioned in previous sections, it is the 'father figure' who dominates the work groups. The seniors and leaders have the main decision making power, and juniors and group members just listen to their ideas. When I talked to an employee in Firm D (Mr. D3), who had just worked in Firm D for seven months, he remarked that his main task was to learn and understand the skills of work from an assigned senior employee. Although he sometimes preferred different methods for product design, he would just listen to the senior's orders: "I have to respect the team leader and also I am not 100 per cent sure that my method will work better…. It is the team leader who has to report and take responsibility for the decisions to the senior managers, so he should be the decision maker." As authority is the team leader's, he

has to take responsibility for the whole project, and team members understand and accept this kind of management. As in traditional Chinese/Taiwanese culture, listening to seniors' or leaders' orders is also an aspect of a moral principle, most Chinese/Taiwanese people listen to the father's opinions in the family and obey the seniors' orders in the company. The culture of tending to place the authority on one person might lead to social resources being centred around one person. Meanwhile, each tie or group of guanxi could be described as a personal network, and the leader could be seen very much as an emperor who has controlling power over his or her members.

The concept of levels

As personal reputation is embedded in guanxi, the concept of *levels* is influenced on people's interactions. People rely on the person who owns the resources (guanxi), so the relationship is gradually distributed to the resource giver (network leader) and resource receiver (network member). This kind of phenomenon can be found in most social groups. For example, within the working group in Firm D group members respect the leaders and seniors not only for their authority over promotion but also for their resources (of knowledge and information) which could help them reach their targets. According to the empirical research in Firms A and D, where I observed their guanxi interaction during their meetings, I identified a level of resource providers and a level of resource receivers. Leaders and seniors are at the level of resource providers and group members are at the level of resource receivers. At the provider level, people are considered as being good sources of resources. They have channels for gaining important information or connections with the important people who control the

promotion of personnel. At the receiver level, people look to a resource channel for job-related knowledge and understand that providers have authority over their future career. They will then try to maintain a good relationship with the resource providers (group leaders or senior employees) and follow their ideas and suggestions. This concept of levels might be similar to Bourdieu's (1986) idea that social capital could be used to preserve the privileges of the dominant class. Nevertheless, in Chinese/Taiwanese guanxi, people rely more on individual power.

The effect on learning and knowledge sharing

In the discussion of the effect of guanxi on information and knowledge sharing, providers seem to be providers of information and knowledge and this information is mostly concerned with some decisions and targets; on the other hand, receivers gain information and knowledge from the providers and then in turn reply or report relevant knowledge to the providers. I think that knowledge sharing might be difficult in this kind of relationship. As providers have social resources and authority over the receivers' future career, even if receivers discover some information or knowledge that is damaging for a product, they will not report to the leader or senior people (the provider level) immediately. When I had lunch with some R&D people in Firm D, I found that they had once complained about it not being possible to reach a target with their machines. However, they did not say a word about this to the providers. They waited until the providers found out about the difficulties and then changed the plan. In the meantime, the correct information and knowledge had been delayed, thus affecting the efficiency of knowledge sharing.

This situation of levels and knowledge sharing which results from guanxi could play an important role in Chinese/Taiwanese social interactions. In these conditions people at the level of guanxi receiver might not tell the truth on some occasions since they do not want to challenge the provider's opinions in case they might lose opportunities for promotion or resources. Knowledge sharing might be difficult to conduct between the levels and some information might be blocked. The efficiency of knowledge sharing could be low between levels (for example, between employees and owner-managers).

5.5.2 The Effect of Buddhism and Taoism on Chinese/Taiwanese Guanxi

In my observations in Taiwanese companies, I identified the significant effect of religion on people's social interaction. Buddhism and Taoism are two of the most popular religions in Taiwan. Both religions have similar principles and both have the idea of transmigration. Thus, what you do in this life will not only affect your current life but also your next reincarnation. Thus, believers follow the Way and are careful not to do something bad to anyone otherwise bad things will happen in their life or even in their next reincarnation. Following this principle, social interaction between people may be more kind and positive.

During my conversations with employees, I noticed they would sometimes use expressions which are connected to the ideas of Buddhism and Taoism. The most frequent one was, "no matter what, we have to do good things to people or we may deserve our fate." This kind of idea might help in understanding the interactions in social networks. As people believe in the 'causal relationship' in their lives, they understand that if they want to have better lives, or want their dreams to come true,

they have to obey the Buddha's principle of being kind and doing good things to people. In this way, guanxi could come into play in a positive way. People would prefer to provide good resources as they believe that there will be something good as a reward for them. People who have a bad attitude will have something bad happen to them. When I had lunch with people in Firm C, one employee (Mr. C3) mentioned that he believes in making good returns, because even if there is something unfair now, the results will turn out well as he has a good and honest mind.

The other example concerns praying in the temple. When someone says that something has not been going well recently (during my observation, three people mentioned this), other people would usually tell her/him to go to the temple to pray and donate some money. They believe that 'praying in the temple' could help them to have good luck and turn their current bad situation into good fortune. I think this action could also reflect the effect of Buddhism and Taoism in Taiwanese society, as these religions are considered an important support during people's low periods.

As for collective learning, I think that these religious principles could in some way facilitate knowledge sharing. Since people believe that good things reward good and evil gets evil, they will be likely to share their knowledge and be honest with people. However, I found that this kind of good interaction only occurred within the same level or between very close friends. With the senior people or group leaders, employees still tend to hide their true feelings and obey orders.

For further research, although it is not easy to define how large the effect of religion is in Taiwanese society or Taiwanese companies, it cannot be denied that it in some

ways dominates Taiwanese people's attitudes. As I think the religious principles are embedded in Taiwanese society, future research into guanxi might consider the role of religion in Taiwanese social networks and social interactions. Some guanxi might develop (providing resources) simply through following the religious principles, which exhort people to be kind and helpful.

5.5.3 The Difference between Family and Non-Family Businesses

In the discussions in Chapters Four and Five some evidence is provided to illustrate the differences between family and non-family businesses. As family businesses are dominated by relational links (Chapter Four) and familial guanxi (Chapter Five), family businesses seem to have more sentimental and emotional relationships. That family businesses take familial guanxi as their main resource is attributable to taking traditional culture (for example, moral principles) as important. Thus, this kind of company might have a more Chinese/Taiwanese atmosphere and be operated mainly by Chinese/Taiwanese management, who usually manage things on the basis of sentiment and take personal guanxi as an important resource. On the other hand, the non-family businesses, which are dominated by structural links and instrumental ties, can be understood differently. As Taiwan has been influenced by American or other modern cultures, some of the companies are led in an American style, with less influence from traditional Chinese/Taiwanese culture. In this kind of company, people tend to pursue things through rational and structural channels. They try to put traditional sentiment aside and focus on utility. Although culture is still embedded within people's lives and thoughts, the different organisational structure and atmosphere still make non-family businesses look different from family businesses.

Thus, I understand that there are different social interactions between family and non-family businesses. Taiwanese companies have been influenced both by traditional Confucianism and Western style: a family business is one with a relatively high influence of Confucianism; and a non-family business is one with a relatively significant influence from American management. Besides, in some way, these phenomena may also represent the dynamic culture in Taiwanese society, which mixes traditional Chinese and modern American culture.

Further research could compare the differences of family and non-family businesses from another angle or using alternative perspectives. There are few discussions of their differences in the relevant literature, especially in qualitative research, and more in-depth research might still be needed. The research may be able to develop and define the characteristics of family businesses and to generate more specific understanding of family business.

5.6 Conclusion

In this chapter, the discussion has mainly focused on guanxi and also its influences on collective learning. As guanxi is recognised as part of Chinese culture, the discussion started by explaining the relationship between Confucianism and guanxi and then followed up by looking at three dimensions of guanxi. Through the discussions of theories and evidence, some characteristics of Taiwanese companies have been identified. Family businesses which are mainly dominated by familial guanxi are recognised as companies with sentimental relationships, a more traditional atmosphere

and an adherence to Chinese/Taiwanese moral principles. Non-family businesses, which are operated mainly with structural ties, are considered as being based on instrumental relationships, having less sentimental effect but more emphasis of the utility of the relationship. Furthermore, the further discussion and analysis of guanxi has provided several findings and insights into its combination, its effect on collective learning and its specific characteristics in Taiwanese companies. I identified that guanxi could have been affected by the significance attached to the emperor, and may show the influence of religion in its principle of providing favours, i.e. doing good things to avoid bad luck. Finally, I discussed the differences between family businesses and non-family businesses in order to illustrate their different social interactions and the mix of cultures in Taiwanese society. These findings improve the understanding of guanxi and also provide some insights for further research. In addition, the comparison between family and non-family businesses and the relevant findings and discussions in this chapter will also facilitate the discussions on collective learning and the innovation process in the next chapter.

Chapter Six Learning & Innovation

6.0 Introduction

In this chapter, I would like to discuss learning efficiency and process from two angles: the density of social links (strong ties and weak ties); and innovation. Having previously talked about social capital and guanxi in relation to collective learning, I now want to discuss the effect of learning efficiency and innovation on collective learning. In different social networks the social interaction could be close, leading to strong ties, or it could be loose, resulting in weak ties (Harryson et al., 2008; Nahapiet and Ghoshal, 1998; Burt, 1992; Granovetter, 1973). The influence of social relations on business action has also been discussed by Granovetter (1985). He uses the terms 'undersocialized' and 'oversocialized', which emerged from classical and neoclassical economics, to discuss how social relations embedded in social structure affect economic action. As this research is focused on learning and innovation behaviour, I will be using Harryson et al.'s (2008) work, which deals with knowledge transfer and transformation in different density of networks, to guide the relevant discussions.

This chapter will consider how strong ties and weak ties affect collective learning and innovation and will present the interaction between learning and social networks from the point of view of the density of social links in family and non-family businesses.

From the previous discussions and relevant literature, the social interactions of family businesses, which have relatively close relationships and intensive contacts within the

group, could be recognised as a network with strong ties. Conversely, the social network of non-family businesses, which have relatively loose relationships, are understood as being based on weak ties.

The discussion will be divided into several parts and will focus mainly on the social links of the owner-managers and the relationship between colleagues. According to the relevant literature (Jones et al., 2007; Thorpe et al., 2005), learning and knowledge accumulation in smaller companies is dominated to a large degree by the owner-managers. The owner-manager is a significant social actor whose social links will influence the resources and social system of learning. In addition, as internal routines will affect organisational learning (Thorpe et al., 2005), the relationship between colleagues could also indicate how strong and weak links influence collective learning.

Thus, providing evidence from my empirical research, I start by examining the density of social interactions in order to understand how social networks (with strong ties and weak ties) affect collective learning and knowledge sharing in family and non-family businesses. I then discuss the interrelationship between innovation and collective learning. I will first introduce the environment for innovation in Taiwanese SMEs and then look at their innovation processes. Innovation development, which is related very closely to learning ability (Miettinen et al., 2008), could show the efficiency of collective learning with strong and weak ties. The discussion will demonstrate that there are different conditions for collective learning and innovation in family and non-family businesses. Thirdly, I point out the strengths and weaknesses of learning and innovation in family and non-family businesses (strong and weak ties) to evaluate how

efficient and skilled they are at learning and innovating. In the final section, there is a conclusion to stress the contributions and the discussions in this chapter.

6.1 Strong and Weak Ties in Family and Non-Family Businesses

6.1.1 Strong Ties and Weak Ties

Collective learning, which is a process of cultivating and developing knowledge through social interaction, can be dominated by the density of social ties, consisting of various resources and opportunities. People with strong ties may have more opportunity to get deep and tacit knowledge from other members; those with weak ties may have greater incentive to explore radical knowledge. Harryson et al. (2008) point out that strong ties which can transfer tacit knowledge may facilitate the exploitation of existing knowledge; weak ties, which have a high number of structural holes, may accelerate exploration of new/radical information. As knowledge acquisition based on strong or weak ties would contribute to different types of knowledge, the pathways to innovation under these different ties could be different.

6.1.2 Closed and Open Networks

Different densities of social ties will result in a different connectivity of social networks. A strong community usually has intensive and close interaction and focuses on social exchange, trust and shared norms (Harryson et al., 2008). However, strong links would also bring with them the high boundary that distinguishes members from

non-members (Bourdieu, 1986). It then becomes a closed network. As people have clear identification with one group, information from other groups could be blocked (Nahapiet and Ghoshal, 1998); meanwhile, new knowledge and information may not be able to be exchanged and spread properly between networks. In contrast, weak ties have relatively loose relationships, and the relationship is basically built upon resource exchange of information (Harryson et al., 2008). As weak ties do not have as high identification as strong ties, the boundary between groups (networks) could be low and a social network would be relatively open. The structural holes between individuals or social ties means that the network consists of few redundant contacts but is information rich, since people on either side of the hole have access to different flows of information (Burt, 1992; Harryson et al., 2008). The new knowledge could be gained and adopted through weak ties in an open network.

6.1.3 Family Businesses and Non-Family Businesses

Family businesses, which have relatively close and intensive relationships due to their familial history, are understood as having relatively strong ties and closed networks. They are usually started by a group of people with a close relationship (family members) and this also affects their organisational structure in that their social interactions are with strong and intimate ties. On the other hand, in non-family businesses, as their relationship is basically started for business and resource purposes, the social interaction between company members is relatively loose and with less intimate links. The non-family businesses do not have an inherent relationship like a family and therefore have relatively weak links and the social networks are based on relatively open interactions and not close ties.

6.1.4 Innovation

Innovation, which generally means the production of new ideas, tools or products, derives from the creation of new knowledge or the transformation or imitation of existing knowledge (Harryson et al., 2008; Tsui-Auch, 2003). The different social networks which could contribute to different forms of learning (Nahapiet and Ghoshal, 1998) would bring about different types of innovation. The strong ties which could facilitate the exploitation of existing knowledge would be a strength for knowledge transfer, and innovation could therefore be developed through adaptation and imitation of existing products. In contrast, the weak ties which accelerate the exploration of new knowledge would be an advantage in creating and transforming knowledge (Harryson et al., 2008), and innovation would therefore involve more radical change.

6.2 Learning

6.2.1 Strong Ties and Weak Ties

In this section, the discussion emphasises how strong and weak ties affect collective learning. In a community or company, people interrelate via different social networks, which may be developed through working projects, organisational structures or personal connections. People who have strong links with particular individuals have more intensive interactions or regular contact with them. They are usually recognised as being a particular group with close relationships. They might also share certain

information and knowledge which is only exchanged and transferred between group members.

On the other hand, people who do not have those close relationships and intensive contacts can be recognised as being in weak ties. They do not have clear identification with any particular group and seldom have 'group-only' knowledge as seen in strong links. The loose ties which facilitate the acquisition and assimilation of extra-corporate knowledge make it harder to share knowledge internally (Harryson et al., 2008).

From my empirical research, I identified family businesses as tending to have a greater number of strong links and the non-family businesses as tending to have a greater number of weak links within the company. In the following discussions, I will be analysing the density of interactions in two main relationships, owner-managers and colleagues, in order to demonstrate their different social interactions. In addition, how these social interactions affect collective learning will also be discussed.

6.2.2 Family Businesses – Strong Ties

One of the main characteristics of a family business is that in over 50 percent of cases the senior management is dominated by the family members and kinship relationships (Cromie et al., 1995; Reynolds, 1995). Most of the senior managers are relatives and also founders of the company. This means that family businesses are inherently a special social group and their social networks will differ from those of other businesses.

The strong links between family members can be identified in the history of the company, including the start-up, and also in their familial sentiment. Through my observation in family businesses, I noted that the relationships of owners and senior managers are very close and they take the company's improvement as a serious family goal. When I was in Firm A, I observed that family members have their own group and usually have lunch in their offices (there is also some relevant discussion in Chapter 4). It is rare to see family members talk to other employees except about business issues. However, it is normal to see family members gather together in an office or go to lunch and leave the company premises together. When I interviewed the GM of Firm A, he mentioned that the greatest treasure of family businesses is their inherent cohesion. He said, "I think the company is not only representative of the quality of the product, but also the image of the family." They work not only for the improvement of the business but also for the reputation of the family. In Firm D, the HR manager also talked the family members' special feelings for the company. As they have faced the company's difficulties together since it was established, they know how difficult it is to run a company. They cherish the company as one of their children and put lots of effort into helping it to grow well. Because the company represents the work of the whole family, owners and senior managers are not only company employees but also have familial sentiment for this business.

This kind of effect of history and shared memories facilitates trust within the family group, and in senior management they therefore tend only to use family members. Since the relationship between family members is mainly based on sentiment, they prefer to use relatives for significant jobs rather than to select non-family members. The HR manager of Firm D said that "it is a kind of feeling of safety that owner-

managers think people who are family members will be easier to get to know and will also have double obligations (as an employee and a family member), which is like a double commitment." The GM of Firm A also described the inherent cohesion of the family business as being like tacit power that made family people work hard for one goal, and said that it was not easy to find other people who would work as hard as one of the family members: "Also, most of family members have worked in the company since the business started, so this kind of long-term sentiment and understanding (familiarity) makes them tend to use family members in important positions" (GM of Firm A). Thus, the status of the family members could represent a boundary between family members and other employees. Family members who have authority in the company form a special group of people to which others cannot belong.

6.2.2.1 Collective Learning in Family Businesses

In order to observe collective learning in family businesses, I participated in their daily work and also attended their group meetings. The main characteristics of the interactions in both Firm A and Firm D were: the boundary between family members and non-family members; strong connections between group members; and high commitment to the company.

6.2.2.2 The Boundary among Family and Non-family Members

The boundary between family members and non-family members means that knowledge sharing in family businesses has a gap and is a non-open network. Family members who have authority and power and have the same kinship can easily be

recognised as a special group and it is hard to get close to them. When I stayed with the R&D people in Firm A, I found that they did not have much opportunity for contact with senior managers. Even in a meeting, the conversation was mainly based on giving orders, not discussing. There was an hierarchy between senior managers and employees. Also, in Firm D, when I had lunch with their R&D people, they usually complained about family members' decisions and were concerned that the family members did not understand others' true feelings. However, during meetings, they still only listened to orders and did not express their real opinions. This kind of phenomenon would be likely to lead to a collapse of knowledge exchange. As meetings could be understood as a frequent opportunity for exchanging and sharing knowledge with a number of people, the inability to exchange real messages could result in inefficiency in knowledge sharing.

6.2.2.3 Social Connections within and between the Groups

In Firm A (software sector), the R&D department was divided into several (three or four) small teams. In a software firm, due to the different sizes and types of the projects, the group is divided into three or four teams to work on projects (the same is true in Firm C, also in the software sector). The teams are organised by people's specialties; therefore, most of the time they stay with the same team mates. People in the same team usually talk about the process of work at any time. Their seats are close so it is convenient to talk to each other. Within the team, people usually have intense interactions. They go lunch together and share many things besides work-related issues. I was always talking to people from two different teams and I found they both have close relationships with their team members (they share their own family issues

and they even know each other's family members). They are friends more than working partners.

Although they have good and close relationships with their group members, I found that there are some boundaries between groups. In Firm D, there are two groups in the R&D department, the software group and the hardware group. When I stayed in either group, both mentioned that the other group does not make the target and usually causes their products to be delayed. However, during my stay, I found that they seldom talked directly with each other. Messages were usually passed on by the group leaders or project representatives. Without direct discussion between the two groups, some misunderstandings could happen since the messages that most of people get might already include subjective ideas.

In addition, as people in the same group have close, strong, and intensive social interactions, the networks become relatively closed (Harryson et al., 2008). Group members who trust each other, share stories and have pseudo-familial sentiment tend to accept a new person on trust or sentimental belief at the beginning. Since trust cannot be developed in a short time, it is very easy to keep a distance from non-members. Knowledge sharing between groups would not be efficient although the internal connection is intensive and there is willingness to share things within the group.

6.2.2.4 Strong Ties – the Effect of Family Members

The phenomenon of strong ties could result from the influence of the family group. Family members, who are used to accepting a person for reasons of sentiment, trust and close social interaction, will influence other people to develop their own community in order to get trust and pseudo-familial sentiment within their group. Employees understand that family members tend to select people whom they trust and for whom they have a basis of sentiment, so in order to have more opportunity for promotion or other resources, it is very important to have strong connections with a person who has resources or links with senior managers (family members). Some groups then develop and become a kind of organisational community with strong ties.

These groups usually have a leader or a senior person who has resources and contacts with senior management or family members. They try to maintain a good relationship with the leader in order to gain high trust within the group. In the meantime, if there is an opportunity for promotion, people who have been trusted and earned sentimental support are more likely to be selected. This kind of guanxi interaction leads them to understand that sentiment and trust sometimes count more than anything. Having strong ties with group members which contain long-term interactions and sentimental trust is seen as a crucial channel for a future career.

6.2.2.5 Collective Learning – Knowledge Transfer with Commitment

Because of the existence of strong ties, collective learning in a family business can rely greatly on existing knowledge and be a strength for exploiting any knowledge

that is required. People tend to rely on internal information and existing resources which might be provided by senior people or group leaders. In order to promote trust and maintain good relationships with group leaders and members, people tend to absorb internal rather than external information. In this case, knowledge flow could maintain a stable level and information could be transferred more generally.

During my empirical research, the phenomena observed in Firm A and Firm D could help to explain the knowledge flow in family businesses. Participation in meetings is one of the key methods by which I observed information exchanges. In Firm A, the departmental meeting is held every week and is the time when the R&D manager checks the groups' progress and gives them their next target. Each team would first report on their progress and the current status of their work and then the manager would give instructions and the next targets. During the two meetings that I attended, I found that the group members seldom had questions. In the meeting, most of the time, group members only listened to the managers' ideas and orders, and seldom had discussions. Aside from the reason of guanxi that I discussed in a previous section, I think the context of the task might also be relevant. The manager's instruction was usually quite straightforward and clear, which might make it difficult for group members to question. They appear to have no other choices. Therefore, information transfer is controlled by the manager and knowledge and information flow appear stable and clear. In the meeting, the R&D manager is almost the only 'window' by which information/knowledge is brought into the group.

In Firm D, the situation is quite similar to Firm A. From observation of the meetings of the hardware group and the software group, I found that information and

knowledge transfer flows basically in a single direction, i.e., from the group leader to the group members. For knowledge about work, when the group leader was giving the next target, he would provide the resources and relevant information to the group members. The information was usually quite clear and all they had to do was learn and understand the things that the manager provided in order to make the target.

Thus, a stable resource and clear target might facilitate learning efficiency. When I interviewed one of the hardware people in Firm D (Mr. D1), he stated that "the target is quite clear every time so it is easy to know if we reach the target or not." Although they seem not to have much flexibility for knowledge learning, the fixed context might in some way facilitate learning efficiency, due to the high level of concentration on a single issue.

In addition, to maintain stable knowledge transfer, it could be very important to have the right people to work in family businesses. When I interviewed the R&D manager in Firm A on the subject of selecting and recruiting new employees, she stressed the importance of an employee's learning attitude. She said, "the most important thing is not whether the new comer has much relevant knowledge or not, because we can teach them. The most important thing is they would like to learn and intend to stay in the company longer." This could be understood as meaning that the company has confidence in their knowledge base and are keen to transfer their existing knowledge to the employees, rather than to explore new knowledge. They focus on steady knowledge transfer and stable knowledge flow. It seems that they emphasise people's working attitude more than their working knowledge. They tend to have people who can transfer and pass on their existing knowledge well rather than have new ideas.

As the company intends to transfer existing knowledge, they will also be particularly concerned about loyalty. In the interview, the R&D manager of Firm A said that they prefer people who seemed likely to work for the company for a long time: "It's to avoid making wasted effort on a person who then leaves the company and also to reduce the cost of time in understanding new people." I realised that this is not only to save the knowledge the company has provided, but also because they are keen to maintain established trust and tacit interactions. In the company with strong ties, people take the norms of trust and sharing as an important part of social interaction. Therefore, they tend to use people who will work in the company longer and have an appropriate attitude which is similar to the company's norms.

To conclude, collective learning in family businesses is mainly based on a stable knowledge resource and learning flow. Their strong ties and closed networks enable knowledge within the group to be saved and transferred properly. As a strong community emphasises sentimental contacts (for example, trust) and long-term relationships, the businesses could not only have a steady flow of learning but also strengthen the commitment of job orders with obligation (sentimental guanxi). Meanwhile, knowledge transfer could be conducted steadily and with clear achievement.

Innovation in family businesses with stable knowledge resources and strong ties will be discussed in a later section. In the next part, I will focus on collective learning in non-family businesses.

6.2.3 Non-Family Businesses – Weak Ties

In the non-family businesses, the social contacts are through relatively weak ties and knowledge sharing is in an open network. According to their organisational structures and lacking the influence of groups with strong ties (like the family group in the family businesses), social interactions in non-family businesses are mainly based on work. Firm B and Firm C are the two non-family businesses in which I participated to conduct my empirical research.

6.2.3.1 Social Connections

In each of non-family businesses, I observed their daily work for two to three weeks and also attended their weekly group meetings. In Firm B, they separate their R&D people into several groups according to different products, and each group has at least one group meeting every week. Since some techniques are also used in different products, some of the employees who are responsible for more than one product would need to attend several meetings. Therefore, people's identifications are not strong and employees do not only belong to a single group. In this case, the social links could be relatively flexible and with structural holes in the relationship. Through observation at lunch time, I also found that they did not always go to lunch with their group mates, but sometimes made up a different team, which might be from other groups, to have lunch together. Some people had lunch on their own, which shows the low level of interaction and also the rather open networks in the non-family businesses. It seems that people do not commit to a particular group and consider each

other just as company to have lunch together. These phenomena could show the weak ties and also multiple connections between employees in the non-family businesses.

I also attended the meetings of two groups in Firm B to observe their social interactions. In the meetings, group members would report to the group leader and also other members on their current progress. They use Excel and a projector to show the working process on the big screen so as to let everyone see what they did the previous week and what they were doing this week. (I think this clear presentation could be a beneficial tool to 'turn the screws on' group members' progress.) After each report, the presenter would throw out some questions and ask for some suggestions for future progress. They would sometimes have many discussions on particular issues to seek for a consensus. If there was any critical problem or decision, the group leader would make the final decision. Their working target was with a deadline. The group leader did not ask for a specific target for each week but he would remind them of the deadline for the product and ask them to finish the product by that date. This kind of flexible management could help group members reach the target by their own steps and from their knowledge resources. Also some employees who were involved in producing more than one product (which meant that they joined more than one group) could in some ways bring other perspectives to the group. Some points of view might have been considered in this group but could have been missed in the other. These people are in effect a channel that helps knowledge flow to spread over to other ties and facilitates collective learning.

In Firm C, I found that their connection is also based on work contacts. People in the same team do not have many other contacts besides work. They have a group meeting

every two weeks, but in the meantime the group leader will sometimes ask group members to come to her office to check their working process. The flexibility is also relatively high and the relationship is mainly for work.

6.2.3.2 Collective Learning – Knowledge Transformation

Collective learning in non-family businesses can facilitate the creation of new knowledge. As people can use their own knowledge in different ways for different products and different purposes, existing knowledge could be applied and transformed into different features. However, it still needs a base of knowledge to transform. As the company provides some flexibility to the employees to use their knowledge, it could also mean that the owner or the HR manager has confidence in the people they select. In the interview with the owner of Firm C, he emphasised that it was very important to use the right person in the right position: "Although some good people might be recruited from other larger companies later on, knowledge is the priority. We believe that they can still select new people with relevant skills." Therefore, people in their company would usually have some relevant background and they hope the new people will get used to their work straight away. With the emphasis on exchanging knowledge and selecting people mainly based on their ability or working skills, knowledge could be transformed or created through these resource rich ties. With this kind of social interaction, it is more possible that some new version of existing knowledge and new knowledge exploration might develop.

However, this kind of learning interaction could also bring with it unstable knowledge flows. Once an employee could not afford or follow his or her job, it could cause a

sudden gap in production. Especially when an employee leaves, his part of the work would need to be transferred at short notice to other people and in the meantime some tasks could be delayed. When I was in Firm B, it happened that an employee was going to leave the next month. One of the group members, who sat next to me, told me that "it will be a tough task to take over his work in such a short time. Although we know his work, but we also need to extra time to understand in order to handle it.... Especially his personal work, which is relevant to the company products, includes some important steps of the production. But apparently, there is nothing else we could do." As the company relies on personal knowledge with weak ties, and the company provides spaces for employees to collect new information, in some cases this could also mean gaps in the specialist knowledge within the company.

To conclude, collective learning in the non-family businesses involves relatively weak ties and offers more opportunity to explore new knowledge. Without the high boundary between groups, the knowledge flow could be spread between groups, and information could be exchanged and used in a greater number of different ways. The situation could facilitate the creation of new knowledge, although it could also result in the problem of stable knowledge transfer.

The table below presents the difference between family businesses and non-family businesses in their social interactions and learning.

	Family Businesses (Firms A, D)	Non-family Businesses (Firms B, C)
Boundary	High, especially between family and non-family members	Low
Links	Strong ties	Weak ties
Relationship	Based on the sentiment Keen for long-term relationships	Based on work
Commitment	Double commitment from employment and kinship	Single commitment from employment
Knowledge Transfer	Stable knowledge resource	Unstable knowledge resource
Knowledge Transformation	New ideas are usually controlled by project manager and group leader	New ideas usually come up through group discussion.
Absorptive Capacity	Relatively unwilling to accept unscheduled changes	Relatively flexible and possible to accept changes

Table 6.1 Differences in Social Interactions and Learning in Family and Non-Family Businesses

In the next section, after analysing the differences in learning efficiency in the family and non-family businesses, I would like to discuss the innovation process to illustrate more precisely their learning ability and knowledge flow.

6.3 Innovation

In this section, the discussion is focused on the process of innovation. I consider the effect of the boundary between social interactions and organisational structure; and also the influence of absorptive capacity on innovation. The objective is to show how learning efficiency is influenced by different social interactions, in this section, innovation, which I take to be a consequence of learning, will be discussed to present learning efficiency in different social interactions.

As we know from earlier discussions, the boundary between groups can affect the way learning takes place in organisations, resulting in different processes of innovation and knowledge transfer. The different organisational structures and cultures which contribute to different boundaries in family and non-family businesses influence their social interactions. In addition, as shown by other research on innovation (Adams et al., 2006; Easterby-Smith et al., 2008a; Zahra and George, 2002), absorptive capacity, which is taken as a crucial concept for realising a company's ability to use new knowledge, is also an important concept for demonstrating innovation. The discussion therefore will take absorptive capacity as a one way to identify different capabilities for innovation in these two types of social networks (family and non-family businesses).

However, according to the aims of research, the discussion on absorptive capacity will focus mainly on internal-organisation resources. As different groups and parts of an organisation may be regarded as external resources for a group, absorptive capacity can be studied within the company. I also believe that it is possible to see the relatively delicate interactions relevant to absorptive capacity if we reduce the field of observation from the whole organisation to organisational groups.

The data from my field work in family and non-family businesses represent the different social networks. The context will include the four cases, allowing me to examine the process of product innovation in the two family businesses and two non-family businesses. With each case, I will be analysing social interactions, boundaries, and then absorptive capacity in order to show the learning efficiency of the business.

Before discussing the cases, I provide illustrations of the industrial environment in which Taiwanese SMEs operate in order to understand their innovation situation.

6.3.1 The Industrial Environment for Innovation in Taiwanese SMEs

Due to Taiwan's small domestic market, SMEs focus mainly on "catching up with the demands of international customers rather than technological leapfrogging" (Tsui-Auch, 2003: 2). Hobday (1995) describes SMEs in Eastern Asia as being more likely to concentrate on an imitation of incremental improvements on existing products than develop novel creations. Innovation in smaller Taiwanese companies does not lay great stress on creating brand new products but is more likely to take the form of imitating and transforming existing skills. Imitation can be conceptualised as a resource and an origin of creativity (Czarniawska, 1997), a process of understanding the original knowledge, which may then help to reconsider the existing idea in order to invoke the new context. Hobday (1995) notes that firms in Singapore, Hong Kong, Taiwan, and South Korea developed their products and processes incrementally by accumulating existing experience. They imitate new products and processes but 'innovate' with their own ideas and modifications to increase the benefits of their products. Understanding innovation in Taiwanese SMEs therefore involves understanding the ideas of imitation and transformation.

6.3.2 Innovation Processes in the Family and the Non-Family Businesses

6.3.2.1 Firm A, Family Business

Firm A is a software company located in the south of Taiwan. There are 10 people in the R&D department and the R&D manager usually separates groups of people into several small teams based on the size of the project. A new project is decided on by the R&D manager. In the interview with the R&D manager of Firm A, she said that "it is usually marketing people who search for the appropriate projects and then we will discuss which one is do-able and which is not." The new products are usually based on combining some existing techniques and trying to create the programme with the lowest price and matching the customer's requirements. An example would be their attempt to construct a programme for adapting similar projects in order to shorten the production process.

In the interview with their R&D manager, in which I asked about innovation in the company, she shared a story about one of their innovative products in 2006.

"This programme was designed to combine several systems together so the engineers could get the general structure merely by keying their themes. It could shorten the production process and reduce unnecessary bias and mistakes. This idea was mentioned initially by the marketing manager since she found that the requirements of customers are sometimes quite similar. The marketing manager thought that if there is a model or a programme which could produce an initial structure, they could not only shorten the production time but also make this programme as a package with patent

for sale. However, the chairman was worried that this 'uncertain product' might waste money and also delay the progress of current work. He did not recommend following this plan. Nevertheless, the chairman's brother, the G.M., thought it was a good idea for business improvement. This plan then was then held up for several weeks till the G.M. and I (the R&D manager) provided a detailed report with the cost of the plan and thorough process to the Chairman. The Chairman then agreed to develop this programme but still reminded us that if the cost is over the original plan, this plan has to be stopped."

Eventually, this programme was successfully developed and it became one of their main products and is still produced by the company.

In addition, as far as their collective learning is concerned, I found through the observation of their meetings that the interaction between the R&D manager and group members was in one direction only (see the relevant discussion in Chapter Four and in the previous sections of this chapter). Group members usually just listen to the R&D manager's orders and then try to reach the set target.

6.3.2.2 Firm D, Family Business

Firm D is an IC-design company located in the Science-Technology District, in the north of Taiwan. There are 29 people in the R&D department; 12 are in the hardware group and 17 in the software team. The new products are usually designed by the hardware team first and then passed to the software team to provide the appropriate

drive. Thus, the innovation is dominated by the hardware group. The story below shows the interactions as new ideas arise in the hardware group.

Within the closed network in the hardware group, information usually comes from the group leader or senior group members. The plan for a new product is mainly structured by the group leader and the project manager, who is situated at senior management level. All the other group members have to do is follow the plan and try to reach the target set by the group leader and the project manager. During my stay, they were working on a new product required by Canon camera and the group leader had a process plan for every member. In the interview with D1 (hardware person, who had been working in Firm D for four years), we also talked about the issue of innovation regarding this current product.

He explained that the target was focused mainly on adding some additional functions in a relatively small size of circuit design: "The type and numbers of functions have already decided by the group leader and we just try to make the target." He added, "these new functions are actually mainly based on the market request; the project manager would collect the information from marketing people and then discuss them with the group leader to decide and depict the plan of the new product." However, a problem arose as one of the employees had different ideas for this product.

One of the group members (D4, hardware person, who had worked in Firm D for 10 months) found that there were more possible functions which could be put into the current circuit design. These functions had been requested by Canon, and he thought it would be a big challenge for the company to meet since it is still rare to have these

functions in this size of circuit design. He then reported to the group leader and thought this initiative, if successful, would help the company to acquire more business. However, the idea was rejected as the project managers thought it would cost more than the company could afford. The project manager explained that the reason was market uncertainty and that those functions were not yet necessary in the current market. It would be a risk to go ahead. Although Mr. D4 thought it was a chance to get ahead of other companies, management still decided to follow the original plan.

In a later chat with Mr. D1, he said, "It is always like this since the company is keen on stable and safe ways for the future plans. Although most of them agree that it is a good opportunity to take a step further, maybe for the project manager or other senior management people this is just an additional risk that they do not want to take," adding also that, "maybe it is just because they do not want to change the scheduled plan."

When I talked to Mr. D4, he expressed his disappointment but he could understand the project manager's difficulty. He still thinks that those functions could be introduced but maybe not by this company. He said, "Although I think it is apparently a good idea, if the group leader and project manager do not like it, I cannot do anything." The project is therefore still following the original plan and no one has mentioned this new idea again.

Discussion

These two cases demonstrate who controls how new knowledge is adopted, and also show that the firms tend not to take on products that are innovative but uncertain. From the viewpoint of collective learning, it shows that the leaders (the chairman in Firm A; group leader and project manager in Firm D) control the main knowledge adoption (the knowledge which is relevant to the product), and the interaction between group members and other senior management has some form of boundary.

In Firm A, the story illustrates the strong control of the owner-manager in the family business. Any uncertain new idea needs to be scheduled and supported by senior management, otherwise it is seen as weak and can easily be abandoned. Besides, an idea which arises at senior management levels seems more likely to be accepted. Only the senior management have the authority to decide to adopt a new idea, strengthening the boundary between managers and group members. Knowledge exchange between group members and managers is rare and consists mainly of orders. This contributes to creating a knowledge boundary between group members and managers since they seldom have discussions and knowledge exchanges.

The case in Firm D presents a similar situation. In Firm D, the group leader does not have permission from the project manager to make any changes and there is no way for other group members to express their opinions to other managers. Since it is not easy to make changes to existing decisions, then even though this close network in family businesses can make for stable progress in product development, the

boundaries between different groups can block the transfer of knowledge between groups.

On the other hand, from the point of view of absorptive capacity, the two cases indicate the power of the group leader and project manager to control knowledge. Their situation is quite like that discussed by Jones (2006), who describes the gatekeeper as being an agent for improving and providing new knowledge from outside and as a new resource provider to span the boundary between the organisation and its environment. The group leader and project manager play a gatekeeper role in connecting the group to other parts of organisation (for example, the marketing department and senior managers). They decide which information will go to other departments and also schedule which information goes to whom and in which way.

To conclude, in the family businesses, the closed network means that knowledge flow relies on a single 'window' and the diversity of knowledge is not significant. Since only the knowledge provided by the group leader will be considered as useful for the group, the new knowledge will be influenced by the subjective thinking of the group leader, resulting in a relatively narrow view. The company prefers a stable learning process and uses political power to control knowledge flow.

6.3.2.3 Firm B, Non-Family Business

Firm B is also an IC-design company, located in the High-Tech District in the north of Taiwan. There are 37 people in the R&D Department, with several groups organised by different products. Their products are relevant to the USB products, which include

the components of removable disks, digital TV receivers, and webcams. Since some techniques are used in more than one product, some people come under two groups and attend the weekly meetings of these different groups of people.

The episode below happened during one of their group meetings when they were discussing a problem mentioned by the FAE (Field Application Engineer). The FAE is responsible for dealing with customer problems; after customers have received the products, the FAE will take charge of any questions about operating the products. He attends the meeting every two weeks.

In one of the weekly meetings, the FAE reported on the problems with one of their products, a digital TV receiver which their customers said was not easy to operate. The FAE explained what the customers wanted and made efforts to find out whether the product had any bugs and whether it would be possible to improve it. During the discussions, the FAE kept trying to explain the difficulties and the need for improvement, while other group members thought it was not crucial. Mr. B2, who was responsible for the design of this product, said there was no problem in their testing of the product; it should therefore not have any problems. The FAE emphasised that "some steps are natural to us but it is new to users!" Since R&D people all have technical backgrounds, it is easy for them to overlook the fact that some of those 'natural steps' are not easy or self-evident for users. He thought that it was necessary to simplify the operating process or else the customers would keep asking the same questions. The project manager then asked Mr. B2 about the possibility of improving the product, and how long it might take to make the modifications. Mr. B2 explained

the difficulties of making changes in a short time, but said he would do some research and then report back to the next meeting.

At the next meeting, Mr. B2 reported that he had discussed this problem with Mr. B3, who works in the other group that Mr. B2 also participates in. Mr. B3 had had similar problems before and thus could provide some suggestions. According to Mr. B2's understanding, he said that it would be easier to produce a much clearer set of instructions (with more pictures) than to modify the current product. It might need more than a week to work out the key points to simplify the process, but developing a more specific set of instructions would only take two days. The project manager agreed with Mr. B2 and asked him to finish the new instructions as soon as possible. The problem had then been solved since the FAE did not mention this problem again at the next meeting.

6.3.2.4. Firm C, Non-Family Business

Firm C is a software company located in the Science-Technology District in the north of Taiwan. There are 14 people in the R&D department and the R&D manager organises them into several teams based on their technical skills. Their new products also derive from combinations of existing functions and they try to make the products (software programmes) satisfy customer's requirements. They have a group meeting each week, which is the time to report on progress during the past week and on the plan for the following week. In addition the group meeting in the middle of the week (Wednesday), the R&D manager asks group members into her office individually to check their progress. During the three weeks of my stay, I found that the R&D

manager was quite often not in her office. She was usually at meetings or not in the company. When I was there, one group meeting was even cancelled due to the R&D manager being busy. However, she was careful to monitor group members' progress by asking individually every week.

During the meeting, they would report on what they had done and what the next step was for the product. The R&D manager usually just checked the deadlines and reminded people when the products had to be finished. Some arguments would occur as people in different technical teams had dilemmas about process decisions. One choice might be of benefit to one team but difficult for another. The R&D manager would then listen to their opinions and provide additional information to help them make a choice. If they were still confused, the R&D manager would then make the decision for them. When I was in Firm C, they were working on a big project for the government, and the following story provides an example to illustrate learning ability and social interaction.

The project was for a new national system which had to be finished in three months. The R&D manager had divided the work into several parts with different technical teams and had made the deadline clear. As the R&D group was not very large, people sat close together and sometimes talked about the project outside the meeting. Even people in different teams would just walk across and discuss the problems of the programme. One day, I noticed that two people from different teams (Mr. C2 and C3) had been discussing particular issues for more than an hour. They were arguing about which part of the programme should be finished first to make the system logic run more efficiently. Mr. C2's opinion was to follow the initial design but Mr. C3 wanted

to use a different method which he thought could be more efficient. This problem was then raised in the group meeting. The R&D manager did not make any decision directly but asked for other people's opinions. They then discussed the issue for almost an hour and every group member expressed their opinion on it. The R&D manager then chose the option with which most of the group members agreed (Mr. C3's opinion) but specifically reminded Mr. C3 to make sure that his method really would be efficient and said that she would check up the following week.

After the meeting, one day at lunch I went to talk to Mr. C2 about his feelings about this decision. Mr. C2 did not say much but simply said that he accepted any decision if it had been agreed by a large number of people.

Discussion

This case indicates the relatively open network and flexible opportunity for external information in the non-family businesses. In Firm B knowledge exchange can be conducted both within and between groups because the organisational structure provides a relatively wide range of resources to employees (having the opportunity to join two groups). From the viewpoint of their collective learning, the fact that there are fewer boundaries between groups, and that there is a direct opportunity to understand customers' demands from the input of the FAE, can help the R&D people have clear and cumulative knowledge from a wide range of sources. In addition, when a problem occurred, the project manager gave more space for group members to investigate possible solutions, providing a platform for exploring new knowledge.

In Firm C, where the R&D group is relatively small by comparison with Firm B, I recognised that external knowledge was held by individuals but not exchanged between groups. I saw that they also have opportunities to discuss their problems openly and that the R&D manager provides high flexibility in decision-making. Thus, different features and applications of knowledge can be discussed by combining different people's knowledge, and I believe that this then allows for objective and accurate decision making.

However, this flexibility could sometimes delay decisions. The strong focus on flexibility and transparency of process is time-consuming. In Firm B, because the project manager encourages people to find out the answers for themselves, it will always take time to reach a final decision. When I interviewed Mr. B1, who is also in the same group, he said that "sometimes I just want to have an answer straight away since there is still a lot of work waiting for me, but it is our organisational culture that we have to figure it out by ourselves.' In Firm C, where the R&D manager likes to combine people's ideas, this sometimes makes for too long discussions. When I talked to Mr. C1, he said that "sometimes the answer is quite clear, but we still have to listen to all statements. It sometimes makes the meeting unnecessarily long."

In my interview with the HR manager of Firm B, she told me that the R&D manager had actually graduated in History but that she had a lot of experience in management. She said, "The owner believes in the power of the group and not the individual; he insists the management people should have the ability to manage and apply the knowledge of a group of people but not be experienced technicians." I think that this is why the project manager is likely to leave the questions to the group members since

he is not the person with the best answer but has the ability to get people to gather knowledge together in order to find solutions. In my interview with the R&D manager with Firm C, she also said, "What I want to know is the best way and the most efficient solution. As I am not able to cover everything, it is necessary to let my people think by themselves and I just try to help them find a better answer."

On the other hand, from the viewpoint of absorptive capacity, non-family businesses have a relatively strong ability to face changes and have more opportunity to acquire external information (for example, information from the FAE and other groups). In Firm B, when they have to alter their products, it is not the project manager who provides the answers. Any changes and problems relating to the products come to the group directly, and group members discuss the solutions together. These multi-perspective solutions could provide more possibilities for creating new ideas. In this case, they were initially worried about how to simplify the operating process, but following hints from people in other groups, they understood that there was an easier way to solve the problem. In Firm C, because the R&D manager likes to find a multi-perspective solution and is also open to accepting opinions, the ability to face changes and the capability to absorb any points of view may be relatively strong. If the R&D manager does not stick to any one opinion and has no particular expectations, she then becomes quite open to knowledge and able to accept changes.

Also, because there is open discussion in the non-family business every member understands the process and what solutions will require in terms of process and resources. This is beneficial for group members who then know not only *what* to do but also understand *how* to do it. Thus, the advantage of this approach is that it

improves employees' ability to deal with external/dynamic changes and helps them learn how to conduct research together.

To conclude, non-family businesses have relatively open networks and are willing to spare the space and time for employees to search for solutions. People who join two groups act as a channel to spread knowledge between groups. These businesses therefore have more resources to deal with problems and to improve their knowledge. Innovative ideas may be easier to come up with. However, as it sometimes takes time to find the solutions by consulting employees, work efficiency could be affected. If the problems need immediate answers, this will present a challenge for them to overcome.

The previous discussions of the cases have shown the different organisational structures and network interactions of the family and non-family businesses, and also their absorptive capacity when facing change. The different social interactions and organisational structures could affect their network interactions and collective learning, and furthermore, their ability to absorb external changes. Since family and non-family businesses are mainly based on different social networks, they therefore have different learning abilities and capabilities for innovation.

In the next section, I will discuss the process of innovation to explain the different learning ability and the process of knowledge acquisitions which may result in different types of innovation.

6.3.3 The Process of Innovation in the Family and the Non-family Businesses

In terms of the relevant literature, innovation is based on various knowledge applications and with the combination of transfer and transformation of knowledge (Harryson et al., 2008; Tsui-Auch, 2003). In this section, for keeping demonstrating the influence of social interactions on collective learning, I would like to depict the different processes of innovation in the family and non-family businesses by presenting their knowledge applications.

6.3.3.1 Family Businesses

| New knowledge acquisition from group leaders and PM | ⇨ | Transforming and scheduling information to scheduled knowledge | ⇨ | Stable knowledge transfer to group members | ⇨ |

| Goal of the group members: reaching established target | ⇨ | Innovation is based on the expected results |
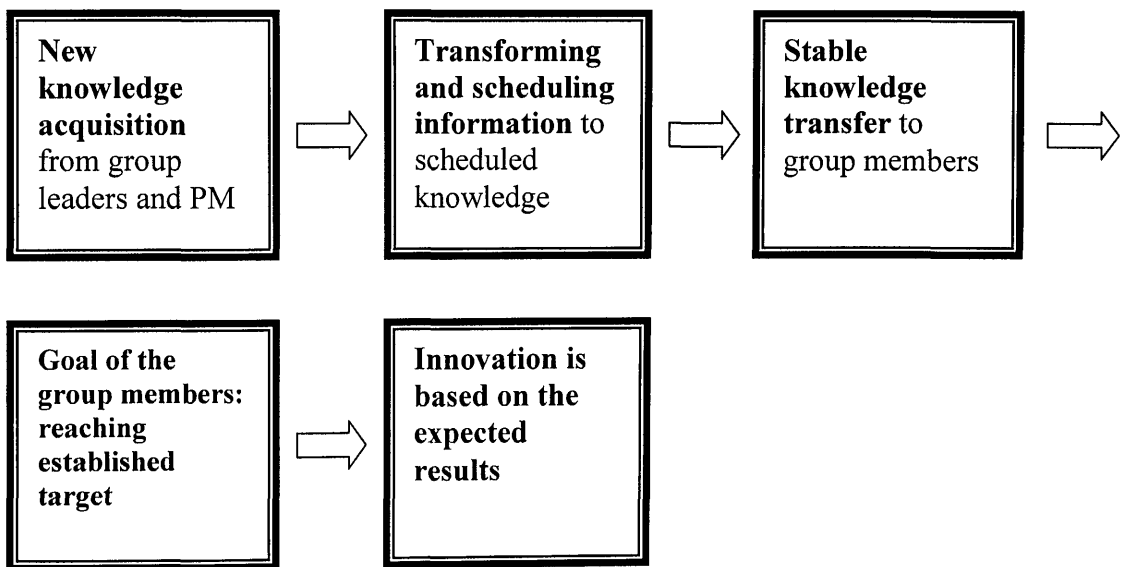
- **Figure 6.2 Innovation Process in the Family Businesses -**

Knowledge acquisition in family businesses is mainly based on group leaders and project managers. In the case of Firm A and Firm D, the group leader and project manager as the gatekeepers control the flow of new knowledge and make decisions on new targets. Their information comes basically from the meetings with other senior

management (for example, the marketing manager) and they then decide what new elements should be added to the current products. As their ideas for new products come mainly from the demands of the existing market, their products have a high degree of imitation and the focus is on improving the products' efficiency (for example, more functions with smaller sizes). The project manager and group leader will schedule the new knowledge into subjects and transform the new information into group knowledge, then transfer it to the group members. Group members will be clear about their next targets and their main goal will be to reach the targets and keep on the scheduled progress set by group leaders. Thus, with these stable and planned processes, innovation in family businesses is mainly based on the expected results and seldom involves ideas or products that are outside the original plan (see the Figure 6.1).

Analysis

Family businesses, which are started by a family and dominated by family members, tend to be protective when collecting knowledge and take the company as the significant responsibility of the whole family. In order to protect the family capital, there is a boundary between family members and non-family people (as mentioned in the first section of this chapter). Under this kind of self-protection, the family members like to control every process and try to take things under their control. Thus, when new ideas come up, they tend to take less risk and are likely to take relatively conservative decisions. They are also highly reliant on long-term relationships (discussed both in Social Capital and Guanxi chapters) and extended familial sentiment, which makes family members feel safe and have greater trust in their decisions. Meanwhile, they are not keen to create new and innovative products to hit

the market, but stay within the current trends, making incremental improvements. They would rather keep profits stable than take risks.

6.3.3.2 Non-Family Businesses

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┌─────────────┐        ┌─────────────┐        ┌─────────────┐
│ New knowledge│       │ Spontaneous │        │ Unstable     │
│ acquisition  │  ⟹   │ exchanging  │   ⟹   │ knowledge    │   ⟹
│ from         │       │ and updating│        │ transfer     │
│ group members'│      │ of knowledge│        │ or transformation│
│ resources    │       │             │        │ between group│
│              │       │             │        │ members      │
└─────────────┘        └─────────────┘        └─────────────┘

┌─────────────┐        ┌─────────────┐
│ Goal: solving│       │ Innovation is│
│ problems and │  ⟹   │ based on     │
│ setting/reaching│    │ unexpected   │
│ personal target│     │ results      │
└─────────────┘        └─────────────┘
```
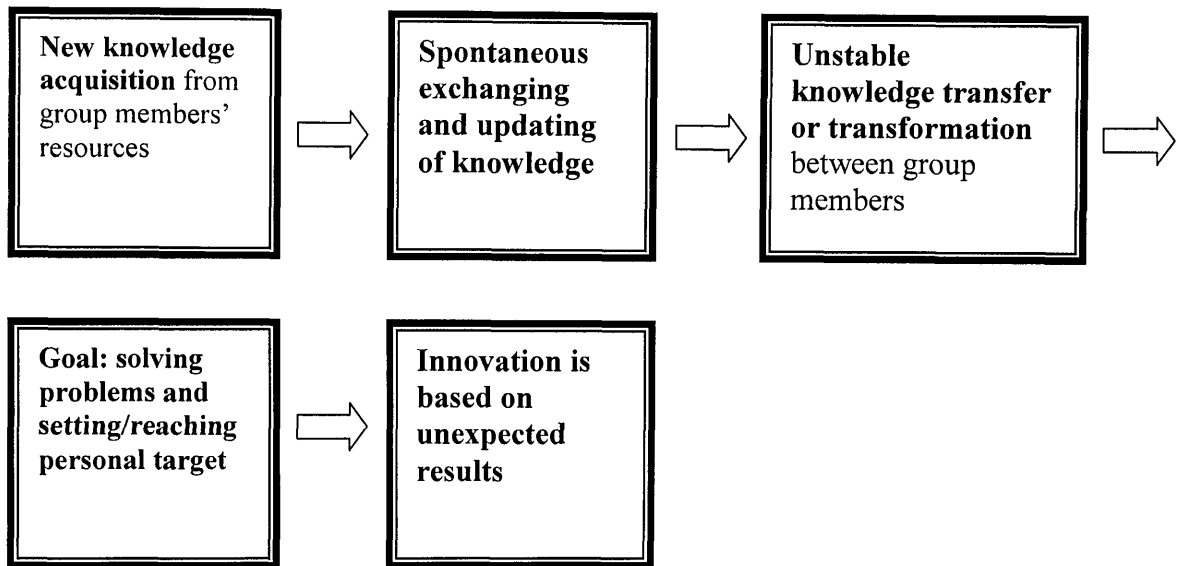
- Figure 6.3 Innovation Process in Non-family Businesses -

In non-family businesses, knowledge acquisition comes from individual resources and information is spread between groups through group members. Although their ideas for new products also follow current market trends and they focus on modifying features and adding functions with lower price from the existing 'hot' products, with open networks the decision is often multi-perspective and the plan is both flexible and changeable. In the case of Firms B and C, group members have greater opportunity for knowledge acquisition and they have to find the methods for doing this and collect relevant information by themselves. Through this kind of interaction, knowledge will be exchanged and updated automatically through people's interaction. Depending on the situations, the exchange of knowledge is sometimes transformed into different

solutions (for example, the FAE's idea of simplifying the operating procedure for the product becomes a clearer set of instruction with pictures). The main goal of the group members is solving problems and setting and reaching their own targets. Project managers just remind them of the deadlines and customers' demands and also make decisions based on group members' ideas and, most of the time, group members have to find answers and make progress by themselves. Innovation is therefore unpredictable, and creative solutions might be different as discussion partners change (see Figure 6.2).

Analysis

Non-family businesses have open networks with more knowledge exchange between groups. The boundary between groups is not clear (for example, one person joins two groups), the connection is therefore able to bridge different groups, either by the design of organisational structures (in Firm B) or through their open discussions (in Firm C). As indicated in previous chapters, because the relationships in non-family businesses are based on instrumental guanxi and structural relations, the main purpose of their connection is to finish the work. The new knowledge exchange is thus not usually for other purposes (for example, sentimental maintenance) but is focused on the work required. Without the extra responsibility of the family, the company has more flexibility and relies on every employee's ability to support the company. Meanwhile, decisions can be made after many options have been considered, and innovative ideas are easily brought up and accepted.

6.4 Strengths and Weaknesses of Learning and Innovation in the Family and the Non-Family Businesses

Having in the previous sections discussed the differences between family and non-family businesses, in this section I would like to point out the businesses' strengths and weaknesses in learning and innovation, based on my observation of their social interactions. As mentioned previously, family businesses have a relatively clear social boundary between groups but have intensive, close, pseudo-familial relationships within the groups; conversely, non-family businesses do not have that clear social boundary between groups and their relationship is basically maintained only for working purposes. These different social networks contribute to different abilities in relation to learning and applying knowledge which will affect the firms' absorptive capacity and innovation. The following discussion will present the strengths and weaknesses of their social networks in order to evaluate how the firms innovate. Nevertheless, the discussion does not aim to present one type of social network as being better than the other, but to point out the various strengths and weaknesses of their innovation. Thus, family businesses and non-family businesses could learn strengths from one another and become more aware of how to improve their weak points.

6.4.1 The Family Businesses

Strengths

The close relationships contributes to knowledge exploitation

In family businesses, group members have strong ties and close relationships which could benefit knowledge transfer and knowledge exploitation (Harryson et al., 2008). Their interactions usually include not only working context but also sentimental ties, such as friends and family. Because there is high mutual trust and reliability, the information exchange and learning context therefore provide relatively in-depth knowledge. The knowledge exchange contains not only explicit knowledge but also tacit knowledge. Through intensive and long-term interactions, group members understand the various personalities within the group and have their own group value and group culture. What they learn from each other might include the attitude toward their work and their life (because they share things besides work) and also the tacit skills and experience that develop through long-term interactions. They can then accumulate their own knowledge explicitly and have a comprehensive understanding of their group knowledge.

The stable interactions make for steady knowledge flow

As mentioned in the previous section, family businesses tend to have a stable and safe method of conducting their projects. They maintain the relationship with stable interactions and they are keen to use sentimental connections to build long-term

relations. With this stable and long-term interaction, knowledge transfer can be scheduled and flow steadily. For knowledge acquisition, this steady knowledge flow can help continuous knowledge development. This then provides a strong base for innovating new knowledge since they have accumulated solid knowledge resources. With regard to knowledge transfer, others have already argued that relationship quality can affect knowledge transfer (Szulanski, 1996; Yli-Renko et al., 2001) and that stable and intensive information exchange within groups in family businesses can improve the efficiency of knowledge transfer.

Scheduling knowledge results in efficient knowledge transfer

In family businesses, scheduling knowledge could make for knowledge transfer with clear, necessary, thematic and non-substitutable targets. As knowledge recipients understand the main purpose of this knowledge transfer and that it is imitable, they will be relatively well prepared to acquire and absorb knowledge efficiently (Barney, 1991; Pérez-Nordtvedt et al., 2008). Since recipients know the main purpose of the knowledge and that it is non-substitutable, they will be more willing to be involved in knowledge exchange (Barney, 1991). Besides, as procedures are step-by-step, with a clear plan and schedule, this may also help people to learn and accept new knowledge efficiently.

Weaknesses

The close relationships and strong sense of group identity which results in high boundaries between groups could block knowledge development

As family businesses have strong ties and close relationships within groups, they have relatively high boundaries between groups. These closed networks give every group its own identity and shared norms and values within the group. Meanwhile, it will be difficult to transfer knowledge because group members have subjective opinions and misunderstand the other group's ideas. Carlile (2002) argues that knowledge transfer across boundaries is difficult because the knowledge sender and receiver have different bases of knowledge (for example, different departments) for understanding each other's information and furthermore this could affect new product development. From my observations, since the organisational structure in family businesses, influenced by the family group, demonstrates higher boundaries (the relevant discussion is in first section of this chapter), knowledge development for the whole organisation could be difficult.

Heavy reliance on schedules makes firms unwilling or slow to make changes

In family businesses the ability to face changes is relatively low, as they like to have stable relationships and schedule things with lower risk, The case of Firm D shows that they are more likely to maintain the current situation rather than take the opportunity to hit the market. This could show that their absorptive capacity also relies on scheduled changes and is not intended to accept sudden corrections. However, as

the market can sometimes make strong signals and it may then be necessary to make immediate changes as a result, this high reliance on schedules could make the situation dangerous.

6.4.2 The Non-Family Businesses

Strengths

The weak relationships contribute to knowledge exploration

Non-family businesses have relatively weak relationships compared to the family businesses, which makes their information exchange dynamic. A weak relationship could make for some structural holes, which consist of a few redundant contacts which are information rich (Burt, 1992; Harryson et al., 2008). People on either side of the relationship have their own knowledge resources and can provide each other with different ideas and insights. The relationships could also inspire some new concepts and benefit knowledge exploration.

Open networks make for knowledge transfer or transformation between groups

With weak ties, networks are relatively open and have lower boundaries. Knowledge and information transfer is not be locked within the group but spreads over to other groups. In the case of Firm B, in addition to the weak relationship, they also have a relatively flexible organisational structure (one person joins two groups) to activate knowledge exchanges between groups. As every group may be applying the same

technique to different situations and for different purposes, some knowledge could be transformed in different ways and with new aspects. When knowledge transformation occurs, new products and innovative ideas may be produced (Kogut and Zander, 1992; Teece, 2001; Harryson et al., 2008).

The flexibility of management results in a relatively strong ability to face changes and absorb new knowledge

The discussion of the case of Firm B identifies the firm's relatively flexible management style and its ability to make changes. This could also demonstrate a strong absorptive capacity in terms of facing potential or unexpected changes from external partners (for example, customers). Cohen and Levinthal (1989, 1990) note the importance of internal processes which can act as activation triggers to aid the movement of knowledge within the company. With the relatively flexible environment and social structure in the non-family businesses, they could have more potential to produce innovative ideas since they have fewer limitations in terms of changes and new knowledge.

Weaknesses

The flexible knowledge acquisition may result in unstable knowledge transfer

Non-family businesses rely on individual knowledge resources and spontaneous knowledge exchange which could result in uncertain knowledge flow. Since it is hard

to evaluate how much information exists in every individual, and how much opportunity for knowledge exchange there is, knowledge transfer could be unstable. In knowledge innovation, knowledge transfer and transformation are both important since knowledge innovation needs a good base of knowledge through knowledge transfer and the organisation is then able to explore and transform existing knowledge into new knowledge (Carlile, 2003; Harryson et al., 2008). Unstable knowledge transfer could make for a relatively weak knowledge base which would affect the efficiency in innovating.

Reaching group decisions can be time-consuming

As decision making in non-family businesses is based on group discussions and always needs some time to gather opinions, coming to a decision might be time-consuming. Since they have to wait for people to do the research, report back, and then come to a decision, it will sometimes take the firm a couple of weeks to solve a problem. In order to deal with the fast changes of the business environment, if they can shorten the time wasted in waiting and transferring information, this might give them have more opportunity to outperform their competitors (Pérez-Nordtvedt et al., 2008). Since the efficiency of knowledge transfer is important for new product development in technology firms (Yli-Renko et al., 2001), it is necessary to have a balance between the amount of time spent and the volume of knowledge produced.

6.5 Conclusion

In this chapter, the discussions provide a contribution to the literature and empirical research on two different types of social networks (family and non-family businesses) in the context of collective learning and innovation. Based on the literatures on social networks, their influence on knowledge transfer and transformation (Harryson et al., 2008; Kought and Zander, 1992; Teece, 2001; Pérez-Nordtvedt et al., 2008), the discussion of boundaries in knowledge transfer (Carlile, 2003; 2004), and also the implications of absorptive capacity (Easterby-Smith et al, 2008a; Jones, 2006; Cohen and Levinthal, 1989; 1990), these discussions provide the theoretical bases for research that indicates the differences between family and non-family businesses. This research could also remedy the gap in qualitative research which compares family and non-family businesses.

In the first section, by demonstrating from my observation the different density of social ties in family and non-family businesses, I showed their different social interactions, along with different types and issues of learning, providing additional understanding of how family businesses and non-family businesses compare. Family businesses have relatively strong ties and closed networks, resulting in stable interactions within the groups but high boundaries between groups. Their strong ties derive from the family members who select people mainly on trust and sentimental bases and who like to use sentimental commitment to get work delivered more efficiently. Owner-managers also control the main knowledge flow to the group and to the company. On the other hand, non-family businesses have relatively weak ties and open networks which contribute to flexible knowledge exchange, due to the low

boundaries between groups. Their relationship is based on working purpose and knowledge resources are mainly from individual resources. Thus this section of the discussion, which presents the effect of social interactions on collective learning and knowledge sharing, combines the ideas from the previous chapters in a more comprehensive analysis.

In the second section, I illustrated the different processes of innovation by providing four examples in the family and non-family businesses. In the family businesses knowledge is mostly subjective and scheduled, as owner-managers, who act as gate-keepers, control the adoption of knowledge within the organisation. The innovation process for these businesses is defined by stable knowledge development and a preference for step-by step progress. Non-family businesses have relatively flexible management and more possibility of facing up to change. Their innovation process is basically through group discussions in which they gather ideas from all group members. This section therefore further demonstrates the different learning abilities and processes of knowledge accumulation in family and non-family businesses. Their differing innovation processes also reflect the influence of social capital and guanxi which give their social interactions different characteristics.

In the last part of the discussion, I focused on the strengths and weaknesses of their innovation processes in family and non-family businesses. Family businesses are characterised by stable learning and scheduled knowledge but with high boundaries between groups and less capability to face changes; non-family businesses have more flexibility in knowledge resources and the ability to explore and transform knowledge, but need to reduce redundant discussion and ensure there is a stable flow of

knowledge. In order to have better learning efficiency, these two types of businesses should balance their strengths and weaknesses and might also address some of their weaknesses through learning from each other.

This chapter, besides the contribution of showing the different social interactions and learning processes in the family and non-family businesses, also provides empirical research on social interactions and learning in networks of different density (strong and weak ties). Also, in the case of family businesses, this research illustrates how the influence of relational/familial links (result in strong ties) on their learning and innovation might provide some insights for the future research on learning in smaller family businesses.

Chapter 7 Conclusions

7.0 Introduction

In this chapter, I combine the ideas presented over the course of this thesis to provide a thorough discussion, making clear its findings and contributions. The chapter starts by summarising main conclusions of Chapters Four, Five and Six separately. Secondly, I provide integration of conclusions from these three chapters. Thirdly, I discuss the broader theoretical implications of this thesis, which contains several fields of study: social capital, guanxi, and organisational learning. This discussion brings together the theoretical bases of the research and also presents the links which connect these theories. Fourthly, there are the findings in relation to business practice; and from this we can see the practical contributions of the research and also the connections and gaps between theory and practice. Finally, the limitations of this thesis and suggestions for future research are discussed.

7.1 Summary of Findings and Conclusions from Chapter Four, Five and Six

This thesis starts with a discussion of social capital and collective learning and then considers guanxi and collective learning, thus providing a cultural perspective on social capital in Taiwanese companies. At the end of the thesis, the presentation of learning efficiency in family and non-family businesses shows that different social interactions contribute to different learning abilities and knowledge resources, thus

stressing the influence of social networks and social relationships on collective learning.

7.1.1 Findings and Conclusions of Chapter Four

In Chapter Four, the discussions are focused on social capital and collective learning. I point out the different social networks that operate in family and non-family businesses and also how different social structures dominate these two types of business. Nahapiet and Ghoshal (1998) divide social capital into relational social capital, structural social capital and cognitive social capital; I argue that family businesses are dominated by relational social capital, and non-family businesses are dominated by structural social capital. The main findings of this chapter are basically three: the difference between family and non-family businesses; the importance of structural social networks; and the differences between IC design companies and software companies.

The difference between family and non-family businesses

Firstly, this chapter shows how different social networks are in operation in family and non-family businesses. In the family businesses, where the family group is the core group of the company, their social interaction will influence the relationships of other groups. The family group has clear identification, high trust and solid norms which also makes family businesses organise relational connections. Their learning

interactions are based on existing norms and obligations, and their social relationship is on the basis of long-term interactions, with continuous give-and-receive interactions.

On the other hand, in non-family businesses, there is relatively unclear identification in groups, and business is conducted mainly via structures. Social networks are governed by structured rules and it is seldom that people have relationships other than with work partners. People follow things through structural channels and have comparatively little space for other methods (for example, using relational connections, friendship or other special connections). The relationship is based on 'function'; it could therefore be long- or short-term, depending on functional requirements.

The importance of structural social networks

Secondly, from the discussions on structural and relational social capital, and the analysis of non-family and family businesses, I conclude that structural social capital actually overlaps with relational social capital, since many relationships are developed under the social structure. Even in a family group, it is social laws and systems that provide a unifying system to solidify the relationships and tacitly improve close interactions. As in relational social networks, which emphasise friendship, classmates, colleagueship and certain other types of relational links, it is structural networks that provide the opportunities and channels to get those individuals connected so that they can have relational interactions (shared norms, trust or identification). Thus, in this thesis, I stress the importance of structural social networks in that they could also affect the development of relational links. Since structural links are the key for

understanding the contributions of networks (including structural and relational networks), collective learning, which needs to take place through good social interactions and relationships, could also be affected by the setting of the social structure. Some researchers in sociology, such as Burt (1992) note the importance of social structures. I agree with Burt and believe this concept is important to the construction of social links and the formation of collective learning within organisations.

The differences between IC design companies and software companies

Finally, this chapter provides a comparison between IC design companies and software companies. The two main differences are: the number of R&D people and their financial support. Firms B and D, which are both IC design companies, have larger requirements for R&D people (IC Design: Firm B, 37; Firm D, 29 / Software: Firm A, 10; Firm C, 14). As these four companies are around the same size (70-100 people), the figures could show that IC design companies need more R&D people than software companies. Besides, although Firm D is a family business like Firm A, its financial support includes other people's investment. This is in contrast to Firm A, where the shareholders are relatives. According to the volume published by Taiwan Financial Information, the IC design industry usually requires a complicated testing process, which might therefore explain the high demand for resources in an IC design company. As the testing process needs tools, materials, time and people, this would make the requirement for resources in IC Design companies relatively large, meaning they have to accumulate strong funding bases. The firm then has to look to other people for support since it is not enough merely to rely on family members.

These differences which demonstrate significant heterogeneity within the IT industry might provide some insights for future studies of IT companies.

7.1.2 Findings and Conclusions of Chapter Five

In Chapter Five, since I realise that some of the phenomena of social interactions from my field study are difficult to analyse through social capital theories, I use guanxi theories to illustrate and explain social interactions in terms of different cultural backgrounds. The discussions that emphasise the cultural and historical backgrounds which influence social interactions in Taiwanese industries present more nuanced and comprehensive analyses. The findings and conclusions of this chapter are three. First, this chapter points out the different roots of social capital in Western culture and Chinese/Taiwanese culture. Social capital in western culture is based on joint ownership (Burt, 1992; Nahapiet and Ghoshal, 1998), but guanxi puts the emphasis on individual power. Second, I mention the strong influence of religion in Taiwanese society which enhances the social interactions which are identified in guanxi theories. In current studies of guanxi, the theory has been developed on the basis of Confucianism; however, I argue that the effect of religion should be included when talking about guanxi in Taiwan. Finally, I conclude with the differences between family and non-family businesses and with a view of guanxi which helps to show the different characteristics of Taiwanese family and non-family businesses.

The different roots of social capital in Western culture and Chinese/Taiwanese culture

Firstly, the role of individual power in guanxi illustrates the special power connections in Chinese/Taiwanese society. The discussions explain the importance of the authority questions dealt with in Chapter Four (in sections 4.1.1.3 Norms and 4.1.1.4 Obligations and Expectations) and also stresses the importance of having extra connections for resource accumulation in Chinese/Taiwanese companies. As guanxi is based on individual reputation, a group usually has a leader or a representative who can act as a bridge to connect to external resources. There are therefore levels within the groups, and the group leader can affect your resources and support. In addition, the discussion also points out that this kind of individual power could result from the long imperial era which has influenced Chinese/Taiwanese people's beliefs regarding individual power and authority. This particular historical and cultural background could affect people's interactions and have created the specific characteristics that have evolved in Chinese/Taiwanese companies.

The strong influence of religions in Taiwanese society

The second finding is on the attributes of guanxi. I suggest that the effect of religion should be one of the attributes of guanxi theory. When I observed and participated in social interactions, I realised that the effect of religion in some ways enhances and promotes social interactions and connections in the companies. The participants believe in supernatural power and bring it into their social lives (examples are provided in 5.5.2, The Effect of Buddhism and Taoism on Chinese/Taiwanese Guanxi), which I think is part of the cultural effect and should be included in guanxi

theory since guanxi is a social capital theory with Chinese cultural perspectives. Although we cannot determine from the evidence whether it is a phenomenon specific to Taiwan or a common feature in Chinese social interactions, this suggestion might help to combine guanxi theory with particular local features.

The differences between family and non-family businesses from the perspective of guanxi

Finally, following the discussion in Chapter Four, I also compare the differences in family and non-family businesses using guanxi theories. According to Bian (2001), there are three types of guanxi: familial, instrumental and asymmetric. Familial guanxi explains the close nature of Chinese relationships and the concept of intense familial/pseudo-familial relationships has been described as the foundation of guanxi (Liang, 1986; Fried, 1969; Yang, 1965). Instrumental guanxi, which is mainly centred around resource exchange, demonstrates that guanxi is sometimes established for instrumental purposes not familial obligation. Asymmetric guanxi is where the guanxi is based on long-term relationships and where it is hard to define whether individual transactions between resource providers and receivers are of equal benefit.

In my empirical research, I found that familial guanxi is more dominant in family businesses and instrumental guanxi has a stronger influence on non-family businesses. Family businesses are likely to connect people through sentimental relationships and obligation. They rely on stable and sentimental support to manage and sustain people's relationships. On the other hand, the relationships in the non-family businesses, which are mainly based on structural relations, are more likely to be

instrumental. Unlike family businesses which look for resources from established sentimental guanxi, in non-family businesses guanxi is established by the possibility of resource exchanges.

The discussions and findings in this chapter therefore focus on complementing western social capital theory by discussing Chinese/Taiwanese social interactions and also the different characteristics of family and non-family businesses. The suggestions for the development of guanxi theory are additional findings from my field studies which might demonstrate the local distinctiveness of Taiwanese companies.

7.1.3 Findings and Conclusions of Chapter Six

In Chapter Six, the discussion focuses on learning and innovation, presenting the learning situations in strong and weak ties (family and non-family businesses) and the innovation processes in these two types of learning situation. After the discussions of social capital and guanxi which seek to understand the various types of social interaction and relationship, the discussions in Chapter Six are continued to explain and explore how these two different social networks conduct collective learning and with what features. In the first section, I demonstrate the different social interactions and knowledge flows in family and non-family businesses through the discussion of the density of their ties which affect their learning context. The contribution is to present the different learning conditions in family and non-family businesses. These have different social backgrounds and density of ties, resulting in high and low boundaries, double and single commitment and different forms of knowledge transfer and transformation. Secondly, I illustrate the process of innovation by the presentation

of four examples, one from each company. The examples describe their innovation processes, the way they adopt and accumulate knowledge, and their absorptive capacity for innovations. In this section, the examples express the different knowledge flows in family and non-family businesses and also the different uses of knowledge (knowledge exploration and exploitation), which derive from different social interactions and contribute to different types of innovation. In the final section, I compare the family and non-family businesses to demonstrate the strengths and weaknesses of their collective learning and knowledge accumulation.

The different social interactions and knowledge flows in family and non-family businesses

In the first section, I separate the discussions into family businesses and non-family businesses in order to illustrate their strong and weak ties, and also the implications of these for collective learning. In the discussion of family businesses, I point out four features of collective learning and social interactions in family businesses. Firstly, there is the high boundary between family and non-family members within the company which may block the flow of information between them. Secondly, I note that boundaries also exist between other groups. From my observations, I found there to be close relationships within the group but few conversations between groups. Thirdly, I consider that the strong ties of family businesses derive from the family group. Since the family group has strong and close relationships, this could affect the organisational culture and structure and make other employees follow by connecting relations with close and strong ties. Finally, I point out that the family businesses generate double commitments as they tend to maintain long-term relationships on the

on schedule and under control. As mentioned above Firm A is a software company which has a smaller R&D group and simpler production processes than Firm D (IC design company). However, group leaders/project managers play important roles in both companies. The knowledge flow is in a single direction from upper levels of management down to group members. The decisions on new product design are discussed by senior management and there are few opportunities for other group members to be involved or change any already established decisions or statements from the project manager and senior mangers. Thus, innovation is based on the expected results and the goal of the group members is just to reach the set targets. Firm B (IC design) and Firm C (software) are non-family businesses in different sectors. From the discussions of their innovation processes, I found that they have relatively flexible information sharing and knowledge acquisition. They rely on group members' abilities to solve problems and search for possible next steps. Project managers only set the deadline for the project and provide space for group members to search for proper methods and set personal progress. Each individual has opportunities to understand the customers' requirements and provide options to the project managers to make decisions. The decisions then include many different points of view and can lead to creative results. New ideas can come from any individual and so it is more possible to have innovative ideas.

This section provides examples and analyses to present the different innovation processes in family and non-family businesses. The results are not only in showing the differences between family and non-family businesses but also those between closed and open networks. With different types of social networks, the knowledge

basis of sentimental relations. People who work in the family businesses and are family members have a double commitment as an employee and also through familial/pseudo-familial relations. Also, these companies prefer long-term relationships and have close relationships, which facilitate knowledge transfer.

On the other hand, in the non-family businesses, there are two main features: weak ties with open networks; and learning in knowledge transformation. I found that the firms have relatively open networks and weak ties. Their relationships are based on working purpose and with less pressure of sentimental obligation. The weak ties and open networks in non-family businesses allow them to have rich information and direct conversations within and between groups. Due to their loose relationships and reliance on individual resource and ability, the collection of information and knowledge application easily have dynamic outcomes.

In this section, the discussion is focused on the comparison of social interactions and learning conditions in family and non-family businesses. This discussion not only provides a comprehensive understanding of the collective learning within the firms but also provides an introduction to the following discussions on their innovation processes.

The innovation processes in family and non-family businesses

In the second section, I use four stories to illustrate different innovation processes in family and non-family businesses. In Firm A and Firm D, the group leaders and project managers plan most of the steps in product innovation to make things happen

applications and acquisitions will be different and will also influence the innovation processes, which make the innovations have expected or unexpected results.

Evaluation

In the final section, according to the discussions in previous sections, I evaluate innovation in family and non-family businesses. Family businesses which have close relationships and stable knowledge flows within the group are able to benefit from knowledge exploitation and knowledge transfer. Scheduling knowledge makes group members clear about their jobs and positions, and can make knowledge transfer efficient (Barney, 1991; Pérez-Nordtvedt et al., 2008). Also, the close relationships and strong ties with relatively intensive and in-depth interactions lead to better knowledge exploitation (Harryson et al., 2008). However, the high boundaries between groups, which makes it hard to spread knowledge between groups, can block knowledge development for the whole organisation. Besides, their high reliance on scheduled plans could reduce their capability to adopt beneficial changes. Although risk is meant to offer high benefits, family businesses tend to take the safer option when planning for the future, rather than taking a possibly high benefit/high risk decision.

On the other hand, non-family businesses, which have relatively open networks and weak ties are engaged more in knowledge exploration than exploitation (Burt, 1992; Harryson et al., 2008). Their knowledge can be transferred and exchanged between groups, and, because there are different knowledge bases and resources for groups and individuals, knowledge can be developed and transformed into different uses and

features through employees' exchanges and communications. As employees have opportunities to search for and explore any possibilities, new ideas and methods will emerge more easily. Furthermore, this relatively flexible management also strengthens the firm's capability to face change; as individuals are used to facing problems and searching for solutions, their absorptive capacity may be relatively strong, with a high possibility that new ideas can be absorbed and taken on board. Nevertheless, this flexibility is usually accompanied by unstable interactions. Since it is hard to evaluate every individual's ability and resources, the knowledge transfer might be unstable and it is not easy to predict whether people will be able to handle the problems every time. If an employee cannot deliver, it will be a tough task to overcome the deficiency. Besides, as the firms have many discussions about most of their decisions, it is sometimes time-consuming to get to a decision. As it is important in the business world to have fast reaction times, it is important to shorten any unnecessary time and to get things done more efficiently.

The evaluations of the family and non-family businesses demonstrate their strengths and weaknesses in learning and innovation through social interactions. This not only makes a contribution to theory in that it shows the strengths and weaknesses of different types of social networks but also provides a reminder to practical businesses to balance their strengths and weaknesses.

7.2 Integration of Conclusion from Chapter Four, Five and Six

In this thesis, the integration of conclusion is mainly around two areas: the connections between social capital and collective learning; and the comparison between family and non-family businesses.

7.2.1 The Connections between Social Capital (internal links) and Collective Learning

Social capital, which is recognised as a kind of resource that is available through and derived from the network of relationships, comprises both the network and assets that could be mobilised through that network (Nahapiet and Ghoshal, 1998; Bourdieu, 1986). As knowledge is a form of resource, it is part of the assets of social capital and exists in the social interactions and networks. Especially in collective learning, which emphasises collective knowledge sharing and acquisition, social networks and interactions may dominate opportunities and resources for learning. According to different types of social networks, their social interactions (which could be strong or weak links) could contribute to different conditions of learning ability. This thesis therefore makes efforts to present the linkages between social capital and collective learning, and the importance of internal links for collective learning is the main contribution in this thesis. The findings and results can be summarised as follows: 1) Social capital acts as the opportunity to access learning resources; 2) The effects of culture can contribute to different types of social relationships which influence employees' collective learning; 3) Internal social relationships, which include people's social interactions and connections, could affect their learning and innovation process.

Social capital acts as the opportunity to access learning resource

In this thesis, the discussion is focused on the importance of social capital which could influence the opportunity to access learning resource. Since social capital consists of social relationships and networks, its accumulation could affect the opportunity to access and gain learning resources. Having access to the necessary networks could bring rich resources and information for learning. Where collective learning is concerned, understanding people's social interactions can help us to analyse their learning processes and capabilities. Through the discussions of social capital, guanxi and collective learning, this thesis provides the linkage between social capital and collective learning and demonstrates that social networks could affect forms of learning and innovation processes.

The effects of culture can contribute to different types of social relationships which influence employees' collective learning

The cultural perspective plays an important role in the discussion of social capital. As social capital is mainly developed through long-term social interactions, the effects of history will have influenced the forms and use of social capital. Guanxi is therefore a significant feature of how social capital works in the Chinese/Taiwanese context. In this thesis, as the discussions are focused on Taiwanese companies, it is necessary to use guanxi in order to demonstrate the specific phenomena of social capital in Taiwanese companies. I pinpoint the differences between western social capital and Chinese/Taiwanese guanxi and also their implications for collective learning. Guanxi, which is highly reliant on individual reputation, will then make the group leader (the

person with the main authority) become an important knowledge resource for the group. This is different from western social capital with its concept of jointly owned social capital. Thus, the discussions in this thesis identify the effects of culture in social capital via the indication of the differences between western social capital and Chinese/Taiwanese guanxi and also their implications for collective learning.

Internal social relationships which include people's social links and connections could affect their learning and innovation process

In this thesis, the main contribution is to show how internal social networks and relationships affect collective learning. Collective learning could be taking place within groups as small as two people or as large as a whole organisation; I therefore use the findings of learning within the groups as an important discussion for collective/organisational learning analysis. According to different knowledge applications (knowledge exploitation or exploration), the thesis then provides a comprehensive presentation on employees' interactions of learning and knowledge exchange. By understanding employees' social interactions, the influence of internal social relationships on collective learning can be demonstrated and their processes of knowledge accumulation and innovation development can be discussed.

The stories from family and non-family businesses provide several examples that show that different social networks can contribute to different consequences of learning and innovation. Group members who are in relatively open networks with weak ties (non-family businesses are examples in this thesis) have more opportunities to create new knowledge. This knowledge can be collected from any individual and

used to facilitate exploration of new ideas, usually with unexpected results. The conditions of learning in this kind of social network are more flexible but it is necessary to have strong motivation or to use the organisational structure to activate individual learning. Since knowledge accumulation depends mainly on individual resources, this unstable knowledge flow will be highly reliant on other rules or structures to sustain an individual's small number of contacts and to maintain the knowledge stream.

On the other hand, group members who are in closed networks with strong ties (family businesses are examples in this thesis), have intensive interactions within the group and stable knowledge exchanges. Knowledge that can be discussed more often and researched for a longer period of time through intensive contacts facilitates knowledge exploitation. Because people have close relationships, there is a greater possibility that they will share more details with each other, and this helps knowledge to be exploited more deeply. Within this type of network, there is a relatively stable flow of knowledge from the intensive contacts but less flexibility to absorb new knowledge. Group members might spend too much time on inter-group contacts and forget to inject some new insights from external sources. Knowledge development needs rich knowledge flows but also requires some space for new inspiration.

As for knowledge innovation, it is necessary to have both knowledge exploration and exploitation (Harryson et al., 2008). It is important to have strong and broad knowledge resources and also the ability to exploit knowledge more deeply. I think that organisational structures, which play an important role in social interaction, could dominate the quality of knowledge accumulation. More efficient knowledge

acquisition and application within the company might therefore be achieved by improving the organisational structures and constructing proper social networks that provide a balance between knowledge exploration and exploitation.

## 7.2.2 The Comparison between Family and Non-Family Businesses

The other conclusion is the illustration of different social networks in family and non-family businesses. In the discussions of social capital (Chapter Four), guanxi (Chapter Five) and learning and innovation (Chapter Six), I identify the firms' different social networks which result in different learning and innovation processes. Some researchers who have examined learning or innovation studies in Asia (Hobday, 1995a, b; Carney and Gedajlovic, 2003) pointed out how East Asia's environmental difficulties influence innovation strategies within the region; however, this thesis turns the spotlight not on external factors but on the firms' internal social networks. This thesis shows the characteristics of innovation strategies in smaller Taiwanese firms and also introduces the different social networks to be found in different types of SMEs. Family businesses which are mainly based on relational links and familial guanxi, have relatively close relationships and strong ties, and develop their learning innovation via stable and scheduled processes. On the other hand, non-family businesses, which are dominated by structural links and instrumental guanxi, have relatively loose relationships and weak ties, and improve their learning and innovation through more flexible and dynamic processes. Through these comparisons we can also understand the importance and effect of organisational structure and social networks which may be key factors in collective learning and organisational learning. Thus, the other integrated conclusion of this thesis is the comparison of two different types of

networks (family and non-family businesses), and the fact that it shows the characteristics of family businesses.

7.3 Theoretical Contributions

7.3.1 Social Capital, Guanxi and Organisational Learning

The first theoretical contribution is to build the connections between social capital, guanxi and organisational learning. In this thesis, I follow Nahapiet and Ghoshal's (1998) dimensions of social capital (relational, structural and cognitive links) to analyse the connection between social capital and collective learning. I also identify the deficiency of social capital theory in explaining the phenomena of social interactions in Chinese/Taiwanese companies. The thesis therefore adds the concept of guanxi to indicate and analyse social capital in Chinese/Taiwanese contexts to demonstrate more comprehensively the connections between social capital and collective learning. Through the discussions on the influence of social capital and guanxi on collective learning, this thesis therefore demonstrates the impact of social capital and guanxi on organisational learning. In Figure 7.0 I indicate the overlaps among these theories.
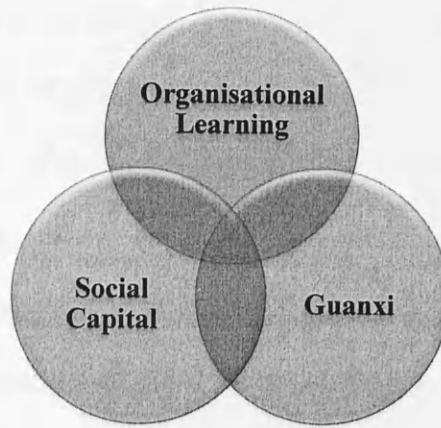
- Figure 7.1 Organisational Learning, Social Capital and Guanxi-

Firstly, if one compares social capital and guanxi, besides the fact that their main ideas are both about the accumulation of social resources through social relationships and networks (Bourdieu, 1986; Nahapiet and Ghoshal, 1998; Bian, 2001; King, 1988), similar concepts can also be seen in the relational links of social capital (trust, norms, obligations and identification from Nahapiet and Ghoshal, 1998) and familial guanxi (familial/pseudo-familial sentiment and obligation from Bian, 2001). For example, trust and norms of social capital in Taiwanese companies could be observed and understood through guanxi in terms of their familial/pseudo-familial loyalty and the culture of 'father-figure'; obligation and identification of social capital could be found in familial/pseudo-familial obligation and in the group identification of guanxi. This shows the overlap between social capital and guanxi is not only in the accumulation of social resources but also in a belief in the influence of social relations that underlie social interactions.

Secondly, with social capital and organisational learning the similarities lies in the emphasis on collective resources (Bourdieu, 1986; Huber, 1991) and structures (Burt, 1992; Senge, 1990). Both stress the importance of social interactions on resource

accumulation, and particularly the influence of structure on people's interactions. For example, the discussions of structural social capital, represented by links, ties and networks, overlap those of organisational learning that focus on soft elements of organisation (employees, groups, and social structure, etc.) as factors in collective learning. This indicates that they both take 'structure' as a significant element in social networks and that the effect of structure on social capital and organisational learning is important in both cases.

Thirdly, if we look at guanxi and organisational learning, both focus on people's interactions for resource/knowledge development (King, 1988; Yang, 1994; Huber,1991). Guanxi which focuses on extra resources within and between groups, overlaps organisational learning by the concept of taking group knowledge and ability as significant knowledge resources. They both see the accumulation of resources as relying on people's interactions and also the importance of collective resources.

Finally, the area where the three fields overlap is 'resource'. Social capital and guanxi are both concerned with the idea that social interactions and networks can accumulate large social resources; and knowledge, which is also a kind of resource, is understood to be an important benefit from collective learning. Their common idea then could be identified as the concept of resource accumulation which is developed via people's interactions.

This discussion indicates the theoretical connections between organisational learning, social capital and guanxi. They are the theoretical findings and contributions

discovered in this thesis and might also show some new insights for the current theories.

7.3.2 Family Business Study

The theoretical contribution for family business study is in learning and social capital. Firstly, this research connects the fields of family study and collective learning. As the research on learning in family businesses is still rare and usually based on entrepreneurial learning (Zhang and Hamilton, 2006; Minniti and Bygrave, 2001; Cope, 2005; Taylor and Thorpe, 2004), this thesis, which emphasises collective learning from internal social interactions, could provide some more organisational perspectives on learning and innovation in family businesses.

Besides, my contention is that family businesses have relatively high protection from risk, which makes their learning ability and innovation processes fairly conservative and dictated by schedules. They tend to take the safe option rather than doing the unexpected. Their new knowledge is therefore usually scheduled and evaluated by senior management people. The fact that they are unlikely to accept unscheduled ideas makes their innovation with the steady but unremarkable results (the evidence is in Chapter Six). These findings could provide some insights into collective learning in family businesses and also illustrate their strengths and weaknesses in relation to learning and innovation.

This thesis also demonstrates the strong influence of owner-managers (family groups) in family businesses. The research shows social interactions and networks by

discussing social capital and guanxi in the family businesses. I point out that family businesses rely mainly on relational links and familial guanxi, and usually have long-term and intensive relationships with dual commitments (employment and familial/pseudo-familial relationship). They have relatively strong ties and closed networks which result in good relationships within the group but high boundaries between groups. These discussions present the special characteristics of family businesses in their social interactions and also the strong influence of family members/owner-managers. As the influence of owner-managers is significant in smaller businesses (Thorpe et al., 2005), this research, conducted in smaller family businesses, shows the influence of owner-managers more significantly. This thesis therefore not only indicates the characteristics of social capital and collective learning in family businesses but also highlights the strong effects of owner-managers on smaller family businesses.

7.4 Practical Implications

In this thesis, there are two findings for practical businesses that derive from my empirical research: 1) the different social interactions between family businesses and non-family businesses; 2) the industrial environment in the IC design and software sectors.

7.4.1 The Comparison between Family Businesses and Non-Family Businesses

In this thesis, based on my pilot study and field work in smaller family businesses and non-family businesses in Taiwan, I identify the different social networks and compare the various ways in which they influence social interactions and learning/innovation processes. In Chapter Six I also evaluate the social networks of the businesses to assess their strengths and weaknesses in learning and innovation. These discussions and empirical evidence illustrate the practical situation and conditions in smaller family and non-family businesses in Taiwan. Although the field work which was only conducted in four companies is not able to represent all smaller companies in Taiwan, the qualitative research, which uses participant observation, provides in-depth knowledge. The network comparisons which represent the context of different social networks provide insights into different social interactions and also the effect of these differences on collective learning and innovation.

Additionally, the discussions on family and non-family businesses not only show the specific characteristics of family businesses, but also make us aware of their individual weak points or strong points. This provides a basis for them to learn from each other and to improve their company's organisational learning practice.

7.4.2 IC Design and Software

The research shows the different management requirements and innovation processes in the IC design and software sectors. In the discussions on their shareholders, I point out that IC design requires greater funding than the software sector, as shown by the

higher costs and resource requirements in the IC design sector. I provide evidence (see Chapter Four) and also relevant documents that illustrate that the requirements of the IC design company are more complicated and more substantial. I also show the different innovation processes in the IC design and software sectors. This could give some insight into the knowledge applications and knowledge development in both sectors. The findings on differences and characteristics of these two sectors, as based on the empirical data, could benefit future research on IT companies. People who are interested in research into IT companies have to be aware of their different resource requirements which could contribute to some different situations of social networks, even though they are all making high-technology products. Also, for specific research on IC design and software companies, this thesis could provide some information on working routines, organisational structures and social interactions.

7.5 Limitations and Future Research

7.5.1 Limitations and Difficulties

In this section, I discuss the limitations and difficulties arising from my methodology and from the process of my empirical research and the analyses.

7.5.1.1 Qualitative Research

The first limitation is the gap between qualitative and quantitative research with regard to the amount of data. As this research is based on the idea of social

constructionism, I use qualitative research to collect in-depth and relatively thorough data on each company. As the research methods I use participant observation and semi-structured interviews in four case studies. There are two companies in the IC design sector (Firm B and Firm D) and two in the software sector (Firm A and Firm C); two are family businesses (Firm A and Firm D) and two are non-family businesses (Firm B and Firm C). The reason for having two companies in each group is to provide some basis for generalisation. A phenomenon which can be observed in two companies is more likely to exist in that sector or businesses. However, to generalise a phenomenon, two samples are sometimes not strong enough to make a statement. So I believe some of the special characteristics or distinctive features which are discussed in this thesis still need quantitative research to increase the reliability.

7.5.1.2 Analytical Tools

For qualitative research, the most useful analytical tool is held to be Nvivo (Bryman and Bell, 2003). However, I found it difficult to apply it to my research. As the object of my study was Taiwanese companies, all relevant data were collected in Chinese. It would be a huge task to translate the data into English in order to fit the Nvivo software. Translation is time-consuming and if there is anything missing, it will result in the wrong combination or mis-coding the relevant data. Also, in the early stages of figuring out the research ideas, using a second language sometimes makes it difficult to grasp the proper logic of an idea thoroughly. Thus I decided not to use Nvivo as a tool of analysis but to sort the data using more traditional methods (notes and computer files). Although the analytical processes would not be as explicit as when using Nvivo, due to the language barrier, I thought that the traditional method would

be more appropriate for this research. Since the aim of an analytical tool is to facilitate the process of analysis, it is very important to adopt a method that is really helpful for the data analysis.

7.5.1.3 Collecting Data

In the process of collecting data, during some of the interviews and all of the meetings I was not able to use a recorder. Especially in Firm D, it was difficult to record any interviews, and they were quite sensitive about recording. In the case of the meetings, because there was too much sensitive information which might be discussed in the meeting, permission was not given to use a recorder. Nevertheless, I found that people talked more freely without the recorder and there was more information provided. Although it was hard to take everything down during the meeting or the interview without a recorder, the immediate note-taking and information-listing after the meeting and interview helped to save the important information.

7.5.2 Future Research

The future research that I would like to suggest is in two fields: a learning study in family businesses and an organisational learning study with internal social capital perspectives. Since learning is not often studied in family businesses (Cabrera-Suarez et al., 2001), this field of study could have more stories to be explored. Using the search engine Proquest ABI/INFORM in July 2008 with the key words 'family business' and 'learning' revealed that only 199 papers had been published since 1975; with Academic Search Complete EBSCO, the number was even smaller, with only 18

papers having been published since 1985; and on Business Source Premier EBSCO there were also only 37 papers that had been published since 1993. These figures illustrate that learning study in family businesses is still in an early stage and has not been much explored.

Through my empirical research, I have also found that in family businesses, due to their family background, knowledge transfer and learning ability are quite different from non-family businesses. Social networks are highly dominated by the family group (especially the owner-managers) and the family businesses are highly concerned about unexpected change. Meanwhile, they have developed a relatively closed network with strong ties and stable knowledge transfer. For future research, in order to understand more about how knowledge works within family businesses, data collection has to focus on the interactions at senior management level. As most of the important decisions in a family business are discussed and taken by senior managers, their social interactions and knowledge bases are very closely related to the company's competitiveness. Their knowledge exchanges, their logic of discussing, and how they make decisions and processes for other employees, could offer rich stories and relevant information that are worthy of exploration.

This research also illustrates the importance of discovering and analysing relational/familial connections in family businesses. A future study, which is relevant to discovering the internal networks in family businesses, might need to pay particular attention to their relational and familial links.

The other suggestion for future research is on organisational learning research from a internal social capital perspective. In this thesis, I indicate the effect of internal social networks and social interactions on collective learning, and show how different social networks could influence the knowledge application and innovation process. In the current research on organisational learning and knowledge management, a number of researchers also emphasise the influence of internal boundaries on knowledge transfer (Carlile, 2003; 2004; Easterby-Smith, 2008; Lervik et al., 2008; Pérez-Nordtvedt et al. 2008) and also the effect of power and hierarchical structure on knowledge exploration and exploitation (Easterby-Smith et al., 2008), showing the importance of social networks in learning and knowledge accumulation within organisations. I think that these discussions can be attributed to the influence of internal social capital. As social capital consists of power, human/capital resources, information and opportunities from the sum of social interactions, resource accumulation could vary in different social networks. The concepts of social capital and Chinese/Taiwanese guanxi, which is bound up with the idea of individual reputation, group identification, group obligation, group norms and culture from long-term relationships, illustrate that in people's interaction there exists some group-power which brings along with it some barriers and tacit boundaries that disunite the community. This could therefore affect knowledge sharing and organisational learning in a company. Thus, for future research, I think it is important to conduct more research on social capital (especially internal networks) in learning processes and knowledge transfer. It may be able to unveil and explain some inefficiencies in learning and make contributions on organisational learning.

7.6 Conclusion

In this chapter, I conclude the relevant findings and results discussed in this thesis. I stress the contributions from each chapter, and also demonstrate the connections and relevant ideas contained in the thesis. The importance of relational/familial networks in the family businesses, the significant influence of structural/instrumental relationships in the non-family businesses, and findings regarding collective learning and innovation processes under different density of ties and networks, indicate the significance of internal social capital/guanxi in SMEs and also are the main contributions and findings in this thesis. Other sub-foci, which include individual power in Chinese/Taiwanese society, the effects of culture/religion on guanxi (Confucianism, Buddhism and Taoism), the status of software and IC companies and also the implications of the theories of organisational learning, of social capital, of guanxi and family business study, also enrich this thesis. The limitations of this research and suggestions for future study are also discussed, which indicate the validity, reliability and some more findings of this study. Thus, this research, which places stress on the influence of internal social networks and guanxi on collective learning, provides insights to fill some gaps and also shows the importance of internal social capital and guanxi for organisational learning in smaller Chinese/Taiwanese companies.

Appendix I: The Era of Confucius

In the era of Confucius (which spanned the Spring-Autumn Era and Warring States Period; 770 B.C.to 221 B.C.), there were many wars and periods of instability. There were five/seven emperors in China (Spring-Autumn Era / Warring States Period) and they engaged in both small-scale and large-scale wars from time to time. Confucius therefore developed his school of thought (Confucianism) with the base of single administrative power in a group and also established many moral principles to underpin society. Some writers have argued that it is Confucius who stabilises the power of the emperor and also provides the basic social system (the moral principles) (Lee, 2005; Nan, 2005).

After the Warring State Period, one of the Warring States emperors, Qin Shi-huang, governed the whole of China, and afterwards, there was only one emperor in China. The emperor Qin Shi-huang therefore became the first emperor for the whole of China. This progress may have been influenced by Confucianism, which established standard norms, providing a better situation for governing people with single power.

Nowadays Confucianism is still an compulsory subject in high school in Taiwan. Although the political situation is very different from the era of Confucius, his school of thought is still regarded as relevant to the social norms and standards of Chinese/Taiwanese society.

Appendix II: Structural Holes

The concept of structural holes was developed by a sociologist, Ronald S. Burt. He defined a structural hole as a relationship of non-redundancy between two contacts. "The hole is a buffer, like an insulator in an electric circuit." Thus, participation in, and control of, information diffusion underlines the social capital of structural holes (Burt, 1992; 2001) In Burt's (1992) research, he notes that social networks formed with different social ties (relationships) have different densities of relationship. A sparse network, with few redundant contacts, means more structural holes. Conversely, at dense network, with close relationships, means fewer structural holes.

People in sparse networks have less interaction and fewer links; however, Burt (1992) states that there are more information benefits in this kind of network. Since there are more spaces between the relationships or individuals, information in the network is diverse and varied. The diagram below, adopted from Burt (2001), illustrates the idea of structural holes.

--- Weak tie

— Strong tie
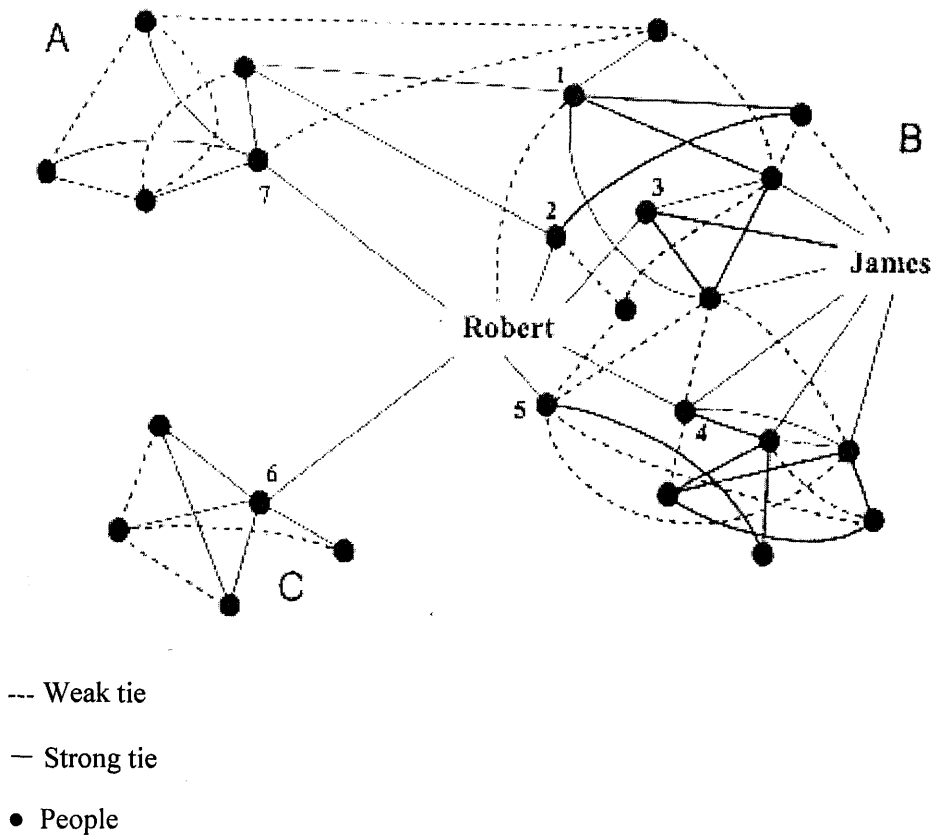
● People

- Figure A –

This figure shows the network around Robert and James, with people shown as dots and relationships as lines. Solid/dashed lines connect pairs of people who have strong/weak relationship. Group A has five people and eight ties (five strong and three weak); Group B has 17 people and 41 ties (27 strong and 14 weak); Group C has five people and eight ties (five strong and three weak). People with weak ties are the holes in social structure and they have rich information. They hold rich information which benefit the diversity of network knowledge (Burt, 1992; 2001).

'The weaker connections between groups in Figure A are holes in the social structure of the market. These holes in social structure – or more simply, structural holes – create a competitive advantage for an individual whose relationships span the holes.

The structural hole between two groups does not mean that people in the groups are unaware of one another. It only means that the people are focused on their own activities such that they do not attend to the activities of people in the other group...Structural holes separate nonredundant sources of information, sources that are more additive than overlapping (Burt. 2001:34-35)'

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