Swedish Cleantech Opportunities in China

From a Business Network Perspective

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Dan Liu and Yanwei Fu
Abstract

The emerging cleantech market in China will bring new business opportunities for Swedish cleantech SMEs (Small and Medium Enterprises). In such an internationalization process, business network building is an important approach that Swedish entrepreneurs should consider about. Guanxi is a culture pattern in China and plays important role in business of Chinese context. The purpose of the thesis is to find how business network and guanxi affect on Swedish SMEs’ internationalization, especially their business with China in the cleantech industry.

Based on market information from pre-study, four propositions connected with business network and guanxi are generated for Swedish SMEs in their business with China. Later, four cases are selected to match raised propositions for deeper analysis.

By the theory of guanxi and business network internationalization, each proposition and case gives a specific view to analyze and understand this topic from an explorative way.

Several conclusions are drawn by the analysis. First, guanxi plays an important role in network building for China market, and the native Chinese can provide great help in such a guanxi building process. Second, the business network can bring valuable information and business opportunities for Swedish SMEs in their business with China. Third, it is beneficial for Swedish cleantech SMEs to cooperate with Chinese state owned companies in their business network. Fourth, Chinese local SMEs cannot gain competitive advantage by guanxi building because the foreign competitors can copy or imitate with proper strategy to learn the skill to connect with Chinese people in the market.

Keywords:

Business network, guanxi, Swedish SME, cleantech, China
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<th>Description</th>
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<tr>
<td>BEV</td>
<td>Battery Electric Vehicle</td>
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<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
</tr>
<tr>
<td>EPI</td>
<td>Environmental Performance Index</td>
</tr>
<tr>
<td>FIE</td>
<td>Foreign Investment Enterprise</td>
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<tr>
<td>FYP</td>
<td>Five Year Plan</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GHG</td>
<td>Greenhouse Gas</td>
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<tr>
<td>GW</td>
<td>Giga Watt</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>LED</td>
<td>Light Emitting Diode</td>
</tr>
<tr>
<td>MOU</td>
<td>Memoranda Of Understanding</td>
</tr>
<tr>
<td>PHEV</td>
<td>Plug-in Hybrid Electric Vehicle</td>
</tr>
<tr>
<td>ROV</td>
<td>Remotely Operated Underwater Vehicle</td>
</tr>
<tr>
<td>SEK</td>
<td>Swedish Kronor</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
</tr>
<tr>
<td>SOE</td>
<td>State Owned Enterprise</td>
</tr>
<tr>
<td>TCE</td>
<td>Tons of coal equivalent</td>
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<tr>
<td>VAT</td>
<td>Value Added Tax</td>
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</table>
1. Introduction

1.1 Background

China is gradually attracting the attention of the world because of its strong economy in recent 20 years, with GDP growth at an average of 9.3% from 1989 to 2010 (World Bank, 2011). China is today Sweden’s leading trading partner in Asia. By 2009 year end, Sweden exported engineering goods worth SEK\(^1\) 19.0 billion to China (SEK 14.0 billion in 2005); while China sold SEK 17.6 billion of engineering goods to Sweden (SEK 4.0 billion in 2005) (Lundgren, Xu and Hjorth, 2009). Today, it is expected that over 11,500 Swedish companies trade with China, while nearly 600 Swedish companies have in various forms of local presence in China (compared to around 340 local present companies in 2005), which are active in manufacturing and sales of industrial products as well as consulting services (Lundgren, Xu and Hjorth, 2009).

However, China’s high speed of industrialization and urbanization brings problems in its environment, such as water shortage, air pollution, food contamination, and so on. The energy shortage and environment damage pushes China to take actions to change its situation of high energy consuming and high environment pollution. The target for “green development” in China therefore thrives the cleantech market of China. Here the term cleantech refers to “technologies, products and services that deliver benefits to users of equal or greater value than those of conventional alternatives, while limiting the impact on natural environment as well as maximizing the efficient and sustainable use of energy, water and other resources” (China Greentech Initiative, 2011: 11). For example, renewable energy such as wind turbine and solar panels can be defined as cleantech. It is estimated that China’s cleantech market will research US$ 1 trillion\(^2\) in 2013 (GreenBiz, 2009). In 2009, China totally invested US$ 200.8 billion for green initiatives from its stimulus bill, 79% more than the US$ 112.2 billion in the same field in the US; which enables China to be the largest investment country in the world (Shawn, 2010).

Sweden is famous in the world for its excellent natural environment protection and strict environment laws and regulations. Sweden is also a leading country worldwide in cleantech related technology and products. Cleantech or environmental technology has dramatically increased its importance in Swedish export. Between 2008 and 2009, the Swedish cleantech engineering export to China increased about 51%, from 1,463 million SEK in 2008 to 2,219 million SEK in 2009 (Nylander, 2010). The strong cleantech export trend and related Swedish policy encouragement is stimulating more and more Swedish cleantech companies to trade or doing business in China. However, in Swedish cleantech industry, except for a few big players like Sandvik, SKF, and Scania, over 90% of cleantech companies are SMEs, with less than 50 employees in each firm (Swedish Statistic Agency, 2009).

China today is no longer a playground or a learning school for any foreign company, but a rather forcefully expanding market that requires extensive business acumen to understand market drivers and consumer behaviors (Lundgren, Xu and Hjorth, 2009). For the cleantech market in China, on one hand, it brings promising business opportunities and an enormous market for Swedish cleantech SMEs; on the other hand, Swedish SMEs have their barriers to expand business to China due to their limited company scale and resources. This brings challenges to Swedish cleantech SMEs to do business in China.

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1 SEK stands for Swedish Kronor, the currency of Sweden; RMB stands for Renminbi, the currency of P.R. China;
1 SEK=0.1 EUR=0.15 USD=0.95 RMB (currency exchange rate is from www.forex.se on Aug-30-2011)
2 1 trillion=1,000 billion
1.2 Problem and Purpose

Many factors will influence Swedish cleantech SMEs in doing business in China, such as technology competency, market accessibility, policy adaption, peers competition, etc. Business network is an important standpoint for study of companies’ internationalization (Rialp and Rialp, 2001). In business network theories, the firm’s internationalization will not only depend on its knowledge and experience on foreign market, but one company’s position in its business network, together with further learning, commitment and trust building (Johanson and Vahlne, 2009). In other words, the internationalization of a firm does not rely on the firm itself; what is more important, it is the behavior and connections with other players in its business network (Johanson and Mattsson, 1988). In China, the business network will closely connect to the Chinese social and culture pattern Guanxi. To some extent, guanxi can be understood as relationship building or connections in Chinese social network (Gold, Guthrie and Wank, 2002). Few people in China will deny the importance of guanxi in business (Yeung and Tung, 1996). However, very few researchers and scholars have discussed the role of guanxi in SME’s internationalization.

In this thesis, the roles of business network and guanxi will be discussed in the process of Swedish SMEs’ internationalization, especially their business with China in the cleantech industry. Firstly, cleantech industry and market will be analyzed for both China and Sweden; secondly, guanxi theory will be introduced into analysis of business network for the internationalization process; finally, case studies and discussions will shed some light on how business network and guanxi impact on Swedish SMEs’ internationalization in the cleantech of China.

The Research Question is: How do business network and guanxi affect the Swedish SMEs’ internationalization in Chinese Market?

1.3 Limitations

In this thesis, guanxi is introduced into the study of business network based internationalization. The authors are trying to analysis guanxi from business network aspect and then apply such understanding to explain behaviors of Swedish SMEs when they are doing business in China or with Chinese. Each case is selected to analyze the proposition which is raised from the pre-study of related background. The explorative way can only analyze the topic from some aspects, but cannot provide overall understanding and interacting connections.

Guanxi is a recognized social and culture pattern in China. The discussion of guanxi is a so wide topic based on social human behaviors. Many factors may take effect on guanxi and related personal behaviors in different situations. The complexity and subjective variations of guanxi could lead to different results by different people’s perception and understanding.

Each case study company has its specific situation for business, and sometimes it is impossible to separate some special factors to compare with other cases. For example, it is not possible to define whether one company’s business success results from specific few factors.
2. Methodology

The methodology of the thesis can provide its readers a clear picture on how the research is structured and conducted. The research topic of the study should match the selected research method. Data collection will support the methodology together with relevant theories to lead to high quality conclusions.

2.1 Research Method

In research and study, two frequently used methods are qualitative method and quantitative method (Bryman and Bell, 2007). The qualitative method is often used in studies that require explanation and understanding of social phenomena and contexts (Ritchie and Lewis, 2003), while the quantitative method is always based on data in numerical form which is conducted with statistical analysis (Saunders, Lewis and Thornhill, 2002). For this thesis, the qualitative method is selected for the topic. One reason is that the study involves process of strategy and decision making in personal and organizational behaviors, which is difficult to be measured in numbers; another reason is that data is collected by interviews, and then the information is analyzed from the conversations. It is hard to use a quantitative way to analyze the result. The qualitative method can provide a better understanding of how people make their decisions, perceive their behaviors, and interpret their experience (Merriam, 2009).

2.2 Research Strategy

Five strategies are most frequently used in research according to Yin (2002), which are experiments, surveys, archival analysis, history study and case study. In this thesis, the case study is selected as the main research strategy. The structure of research strategy of the thesis is illustrated in Figure 1. The thesis starts with pre-study of the topic and related theories; and then propositions are raised from such information; next, different cases are selected for study to match the raised propositions; finally, all the efforts will be served for the analysis and conclusion of the topic.

Figure 1: Structure of research strategy for the thesis
2.2.1 Propositions

Four different propositions are raised from the information of pre-study and related theories. They are actually the starting points for studying this big topic from different small angles. The collected information and theories are well integrated in the forms of propositions for further case selection process. The details on how the propositions are generated are given in the analysis section of this paper. The four propositions are listed here with only contents but without details.

- **Proposition 1**: Guanxi plays an important role in cleantech business in China.
- **Proposition 2**: Business network facilitates Swedish cleantech SMEs to success in China.
- **Proposition 3**: It is beneficial for Swedish SMEs to build business network with Chinese SOEs.
- **Proposition 4**: Chinese SMEs will be more competitive than Swedish SMEs due to guanxi building advantage.

2.2.2 Case Selection

The case selection is very important for the case study. Based on the raised propositions, cases should be found to fit with the situation of each proposition. Such cases can help to test and verify the propositions. Further deep analysis of each case will be important for understanding the research question and study topic. Each case is matched with one of the propositions. The interviewees are from both Sweden and China to reflect different culture understanding for the topic. Table 1 shows the details about companies for case studies.

<table>
<thead>
<tr>
<th>Case</th>
<th>Company Name</th>
<th>Company Type</th>
<th>Industry</th>
<th>Country</th>
<th>Proposition Matched</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Alpha AB(^3)</td>
<td>Private SME</td>
<td>Cleantech in high-tech equipment</td>
<td>Sweden</td>
<td>Proposition 1</td>
</tr>
<tr>
<td>Case 2</td>
<td>Cleantech Östergötland</td>
<td>Non-profit Organization</td>
<td>Cleantech in general</td>
<td>Sweden</td>
<td>Proposition 2</td>
</tr>
<tr>
<td>Case 3</td>
<td>Tianjin Capital Environmental Protection Group Co. Ltd</td>
<td>Big state owned enterprise (SOE)</td>
<td>Cleantech in water treatment</td>
<td>China</td>
<td>Proposition 3</td>
</tr>
<tr>
<td>Case 4</td>
<td>Tianjin Supvino Technology Co. Ltd</td>
<td>Private SME</td>
<td>Cleantech in green building</td>
<td>China</td>
<td>Proposition 4</td>
</tr>
</tbody>
</table>

Case 1 is a Swedish private SME which has successfully made its business in China, and one of the entrepreneurs of the company is Chinese. The Chinese would facilitate the process of guanxi building base on the first proposition; Case 2 is a Swedish NGO which is built for enhancing the strength of local cleantech industries. Business network building is one of its most important tasks for member companies. This could perfectly match the second proposition; Case 3 is a Chinese SOE to provide more information for the analysis of proposition 3; Case 4 is a Chinese private SME to test the last proposition about Chinese SMEs.

\(^3\) Alpha AB is an alternative firm name instead of the real firm name by the request of anonymity from interviewees.
2.2.3 Data Collection

Case study is often connected with interviews, which is an important approach for primary data collection. Other sources are also helpful for case study, which are documents, archival records, direct observation, participant observation and physical artifacts (Yin, 2002).

In general, three methods can be used for interview, which are structured interview, semi-structured interview and non-structured (open question) interview (Bryman and Bell, 2007). In the interview of Swedish companies, we applied semi-structured interview, because this method can structure our topic with related theories, and it is very flexible for follow-up questions during the interviews for more information and deeper investigation.

In China, the way of interview is different due to the special Chinese culture. As a matter of fact, most Chinese do not like to be interviewed in any case; especially if the topic is related with private events or business. To interview a Chinese, it has to rely on good personal relationship or trusted intermediary persons. To become friends at first, it is then much easier for Chinese people to accept to be interviewed. When the topic is about business or politics (or any other sensitive topic for Chinese in their understanding), although they accept to be interviewed, it is hard to get access to the reality of the topic. Furthermore, people are not willing to tell the reality if they know the talk is a prepared interview. Fang (1999) also discussed this Chinese specific issue for interview, and he mentioned three main barriers: (a) lack of access to reality, (b) “No tape recorder!” syndrome, and (c) sensitivity of the subject.

It seems hard to interview any Chinese in China in normal ways. However, the understanding of Chinese culture can bring a better way to get information. The key to the door is Chinese guanxi. Both interviewees in China are found via guanxi. Without informing to take an interview or preparing any recording equipments, the interview with each interviewee in China is more like a comfortable personal chatting between friends. During such a talk, prepared topic will be naturally discussed. For sure, the interviewees will tell the true stories to their friend without any concern. Later they are asked whether or not the information in the talk can be used as data in the thesis if their names are hidden, and it is permitted for both the interviewees if using anonymous name.

2.3 Research Quality

The research quality can be analyzed from two aspects: reliability and validity. Reliability means whether the result of the study is repeatable or not, and whether others can use the same instruments or measurement procedure to reach the same or similar conclusions (Daymon and Holloway, 2002). Several actions are taken to improve the reliability of the thesis. For example, when taking the interview, each author takes fixed task in any interview, with one person as interviewer and the other as observer. The interviews are in Chinese and English, and these two languages are mother language or well mastered foreign language for the interviewer. The content of the interviews are recorded by tape recorder or written notes, and translated into written documentation immediately after the interview.

Validity can be separated into two sides: internal validity and external validity. The internal validity means whether the conclusion or results can reflect the reality; the external validity means whether the result is applicable to other situations or generalizes to more circumstances (Daymon and Holloway, 2002).

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4 In general, if any Chinese is as interviewee, they will never be asked to be tape reordered by the interviewers. (Note by the authors)
The internal validity of this paper is enhanced by many ways. First, the materials used for the thesis are multi-sourced from public news, government documentations, consultant research reports, company internal publications, and so on. The amount of information is affluent and the quality of information can be verified by different sources. Second, the interview data is collected with careful preparation and the trust is given by each interviewee due to good contact and well communications.

The external validity is not as strong as internal validity, because only one case is selected for each proposition, and the conclusion for such propositions should be verified by more case studies.
3. Pre-study of Cleantech in China and Sweden

3.1 China’s economy vs. its energy and environment status

Over the past twenty years, China’s open market policy reshapes this country with formidable economic growth. From 1989 to 2010, China’s gross domestic product (GDP) grew at an average of 9.3% (World Bank, 2011), and this GDP growth rate could outperform most of the emerging economies in the world (see Figure 2). In mid-2010, China surpassed Japan to become the second largest economy in the world (Barboza, 2010). The astonishing economic achievements enable China to become one of the most important economic driving force entities in Asia as well as in the world. For this reason, China is a market that many foreign companies should not neglect or underestimate.

In parallel with China’s economy soaring, it comes to this country’s fast-paced industrialization, with characteristic of high energy demand and fuel consumption. According to data from the International Energy Agency, China has passed United States to become the world’s biggest energy consumer in 2010 (see Figure 3), as well as number one in carbon dioxide emissions (Smith and Schmollinger, 2010). China is the world’s largest steel consumer with about 45% of the world production in 2010. What’s more, China consumes 44% of the world’s cement and produces 40% of the world’s copper (China Greentech Initiative, 2011). In addition, with oil consumption doubling between 1998 and 2009, China has become the world’s second largest oil-importing country (U.S. Energy Information Administration, 2011).

There are few countries in the world suffering so severely from environmental problems as China now. Climate change has pushed China to the spotlight of the world, because China has overtaken U.S. to become the largest GHG (greenhouse gas) emission country in the world (China Greentech Initiative, 2011). Due to China’s leading role in world’s manufacturing production and its hot domestic infrastructure construction, the urgent and increasing energy demand forces China rely too much on its coal oriented energy source (e.g. in coal-fired power
Coal is a highly greenhouse gas intensive fuel source compared to natural gas and petroleum; as a matter of fact, nearly 80% of the CO2 emissions in China’s energy use comes from coal burning (China Greentech Initiative, 2011). The present GHG emission trend is hardly to change in a short period if the economy blooming pattern is keeping the same style (see Figure 4).

Figure 3: Total Energy Consumption of Select Countries, quadrillion BTUs, 1965-2010

![Energy Consumption Graph]

Source: China Greentech Report 2011 (China Greentech Initiative, 2011)

Figure 4: Carbon Emissions Growth of China and Intensity of GDP

![Carbon Emissions Graph]

Source: China Greentech Report 2011 (China Greentech Initiative, 2011)

Apart from greenhouse gas, other pollutants such as SOx and NOx make many Chinese cities wrapped in toxic gray smog. The World Bank reported that 17 of the 25 most polluted cities of the world in 2004 were located in China (World Bank, 2008). Pollution has made cancer to be China’s major cause of death, where ambient air pollution alone is blamed for hundreds of thousands of deaths each year (Kahn and Yardley, 2007).

Water pollution is another big concern. According to Greenpeace, 320 million Chinese people without access to clean drinking water and 190 million people are drinking water severely.
contaminated with hazardous chemicals, and over 90% of the groundwater in cities of China was polluted to different degrees (Greenpeace, 2011).

In addition to air and water pollution, problems and issues like land degradation, desertification, food contamination, hazardous waste land-filling, etc. are reported widely to reflect how serious the environment pollution in China (China Greentech Initiative, 2011).

3.2 China’s Regulation on Energy and Environment

The climate change has driven every country of the world to rethink about their situation and reaction to the global environment. In China, ‘the depletion, deterioration and exhaustion of resources and the worsening ecological environment have become bottlenecks and grave impediments to the nation’s economic and social development’ (Jacobs, 2011). This invokes concentration from both central and local Chinese government leaders.

“We must not any longer sacrifice the environment for the sake of rapid growth and reckless rollouts, as that would result in unsustainable growth featuring industrial overcapacity and intensive resource consumption” Says Mr. Wen Jiabao, Prime Minister of China, which is cited in the news of the New York Times (Jacobs, 2011)

During the past two decades, Chinese central and local governments initiate a series of policies and regulations to emphasize the environmental issue and drive the effort to ‘build a resource-conserving and environmentally friendly society’. Since 1987 China has applied its ‘market-open’ policy for over 30 years, which means China is reforming and changing to a market-based economy instead of planning-based economy. However, the nation still relies on planning-stylish policy and regulation for its economic and social development in large extent due to its strong central government. Energy and environment sectors will hardly be of exceptions. Much of the cleantech market is energy related, and the energy sector is controlled tightly by the Chinese government. That is why policy and regulation is actually playing the most critical and decisive role for the cleantech market in China. Every foreign company that wants to enter a specific cleantech market in China has to evaluate market accessibility for the desired niche at first. Some high profitable cleantech niches in China only allow the access of Chinese State-owned Enterprises (SOE) or local companies, but set high entry barriers for foreign companies. For example, the Catalogue for the Guidance of Foreign Investment Industries, which was revised in 2007, restricts foreign direct investment (FDI) in certain cleantech sectors (Zhang, 2011).

According to “The China Greentech Report 2009”, seven key principles can be summarized to underlie China’s policies on sustainability, climate change and cleantech (China Greentech Initiative, 2009):

- Scientific Approach to Development
- Harmonious Society
- Equal Emphasis on Mitigation and Adaptation to Climate Change
- Efficiency Improvement and Conservation
- Energy Structure Optimization
- Ecological Preservation and Construction
- Agriculture Productivity Enhancement
- Indigenous Innovation

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5 The citation comes from the 11th Five-year Plan (FYP) for national economy and social development of China, which was the most important national development guidelines for a five-year period from 2006 to 2010 (Chinese Government, 2005).
Such principles are followed and reflected in China’s plan and programs. The economy of China relies on these plans and programs in many aspects, and most of them are industrial markets like energy, steel, infrastructure construction, etc., but fewer in consumer market, e.g. fashion, food, and entertainment. The most famous ‘Plan and Program’ in China is the Five-Year-Plan (FYP) and the “863” Program.

Since 1953, a national plan is drafted every five year by the central government of China to provide guidance for China’s domestic development. It is called Five-Year-Plan (FYP). After the 10th FYP, the Plan is renamed as Five-Year-Guidelines (FYG) (Sarah, 2011). Following the principles of central government’s FYP, the regional governments have to make sub-plans based on local situations. In this way, the Five-Year-Plan is delivered and put into practice from central government to province level, and then to cities, townships and villages. Over fifty years, this top-down guideline and bottom-up practice styles are kept as dominant role in China’s society, even after the China’s reform and open-up policy as well as entry to WTO.

The “863” Program is a well-known national high-tech R&D innovation program, which started from March of 1986 (that is why it is called 863 program). The program will sponsor and finance-aid R&D projects for high-tech development and innovation (Ministry of science and technology PRC, 2011). For years, the government pumped billions of dollars into laboratories, universities and enterprises, on projects ranging from cloning to space aircraft (Osnos, 2009).

In the recently approved 12th Five-Year-Plan for 2011 to 2015, it addressed green development as key guideline for China in this five-year period. The new FYP is based on achievements of energy conservation and GHG emission reduction for the last FYP period 6. The green development strategy has six supporting pillars: (1) climate change, (2) resource conservation and management, (3) green style of “circular economy”, (4) environmental protection, (5) ecological protection and restoration, (6) water management and disaster prevention and alleviation (Hu and Liang, 2011). At the same time, the 12th FYP will create more mandatory “green” targets, promote industries for energy savings and clean energy, reform resource price, and expand renewable energy (Hu and Liang, 2011).

The guideline and plan are not enough, and it requires a range of laws as legal and judicial basis for practice. In the past ten years, China approved many laws and regulations than any time in the history to enhance the legislation for pushing energy conservation and environment protection. In Table 2, cleantech related laws which are established in recent years can clearly illustrate this purpose and trend in China.

Apart from political and administrative policy aspects, China also applies many other ways to drive the business and economy towards to a “green” target, and this also invokes colossal scales of cleantech market in China.

Government financial stimulus and subsidies could be regarded as the most direct way for cleantech, especially during the period of world economic downturn. For example, after the world financial crisis in 2008, China announced a government stimulus package of 4 trillion RMB (US$ 586 billion) to stimulate domestic economy (Xinhua News, 2008). 15% of the stimulus was spent on cutting carbon emissions by the end of 2010, where 210 billion RMB in energy conservation, pollution reduction and ecological improvement, and the other 370 billion RMB connected with technological upgrading and industrial restructuring in China’s energy-intensive

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6 In the 11th FYP period (2005-2010), the energy intensity reduced by 20% as target; water consumption per unit of industrial value added dropped 35%; chemical oxygen demand COD (an indirect measure of water pollution) dropped by 14%; Carbon-dioxide emissions also fell by an accumulative 12% (Hu and Liang, 2011).
factories (Fu and Li, 2009). China also directly subsidizes domestic companies within the scope of national strategic cleantech technologies, such as wind turbine, electric vehicle, solar panel, and fuel-cell and so on (China Greentech Initiative, 2009). Some companies received subsidies show a trend of dramatic growth: for example, a Chinese wind power company HuiTeng shows a 26 times of growth during 2004 to 2007 (from turnover of US$ 7.3 million in 2004 to US$ 197 million in 2007), and another Chinese Solar Giant Yingli shows incredible 266 times in turnover growth during the same period (from turnover of US$ 1.9 million in 2004 to US$ 508 million in 2007) (Rasmus and Tønjum, 2008).

Table 2: Selected China Cleantech Laws in recent 10 years

<table>
<thead>
<tr>
<th>Name of the Law</th>
<th>Year of Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular Economy Promotion Law</td>
<td>2008</td>
</tr>
<tr>
<td>Water Pollution Control Law</td>
<td>2008 Revised</td>
</tr>
<tr>
<td>Energy Conservation Law</td>
<td>2008</td>
</tr>
<tr>
<td>Urban-Rural Planning Law</td>
<td>2007</td>
</tr>
<tr>
<td>Renewable Energy Law</td>
<td>2005</td>
</tr>
<tr>
<td>Law on Prevention and Control of Environmental pollution caused by solid waste</td>
<td>2005 Revised</td>
</tr>
<tr>
<td>Cleaner Production Promotion Law</td>
<td>2003</td>
</tr>
<tr>
<td>Water Law</td>
<td>2002 Revised</td>
</tr>
<tr>
<td>Environmental Impact Assessment Law</td>
<td>2002</td>
</tr>
<tr>
<td>Law on Prevention and Control of Atmospheric Pollution</td>
<td>2002 Revised</td>
</tr>
</tbody>
</table>

Source: China Greentech Report 2009 (China Greentech Initiative, 2009)

Tax benefits can be gained following some specific rules on cleantech industry encouragement. For instance, corporate income earned from certain types of Clean Development Mechanism (CDM), environmental protection, energy conservation and water saving conservation projects, is eligible for a three-year exemption and three-year 50% reduction of corporate income taxes (China Greentech Initiative, 2009). Similar policies can also be found in terms of tax credits and Value-added Tax (VAT) refund and exemptions (China Greentech Initiative, 2009).

Here, further analysis will be added due to the mention of Corporate Income Tax in China. From January 1st of 2008, new corporate income tax law (also translated as Enterprise Income Tax Law) came into effect. One of the most influential effects of the new law is that the income tax rate for foreign investment enterprises (FIEs) increased from 15% to 25% and many tax benefits and preferential treatment previously available to FIEs were either restricted or abolished (Zhang, 2011). However, some cleantech companies could still enjoy the corporate income tax at 15% unless they are qualified as “high or new technology enterprises”. This seems reflected cleantech preference attitude of China in spite of general discouragement of foreign companies. As a matter of fact, to be qualified to be a cleantech company it must own a core proprietary intellectual property, which many foreign investors are reluctant to hold in China due to much higher risk of copycat and infringement. So the government actually uses tax to discourage foreign cleantech companies in some extent (Zhang, 2011).

Financing from China’s banks preferred those government promoted “green” industries, too. For example, by the end of 2010, China Development Bank had more than 232 billion RMB (US$ 35.9 billion) in loans outstanding for environmental protection, energy conservation and emissions reduction projects (China Development Bank, 2011).
3.3 China’s Cleantech Market

In 1990s’, people in China were hardly to imagine what cleantech means. But now, words like “green”, “sustainable”, “cleantech” could be popular topic in this country, either from politic leaders or business talents. Especially during the recent ten years, cleantech market in China seems experienced a story of rocketing rising. In 2009, China totally invested US$ 200.8 billion for green initiatives from its stimulus bill, 79% more than the US$ 112.2 billion in the same field in the US, which enables China to be the largest cleantech investment country in the world (Shawn, 2010). Also in the same year (2010) China covered almost 75% of all cleantech IPO proceeding worldwide (Kachan, 2010).

Table 3: Selected China Cleantech Niche and its Market Outlook

<table>
<thead>
<tr>
<th>Cleantech Niche</th>
<th>2015 Target based on 12th FYP</th>
<th>Opportunity Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro Power</td>
<td>Installed capacity of 331 GW, up from 211 GW in 2010</td>
<td>Equipment &amp; Services China largely self-sufficient</td>
</tr>
<tr>
<td>Wind Power</td>
<td>Installed capacity of 105 GW, up from 35 GW in 2010 15 GW off-shore</td>
<td>Turbines and blades Critical components Off-shore expertise</td>
</tr>
<tr>
<td>Solar Power</td>
<td>Installed capacity of 5 GW, up from 0.6 GW in 2010</td>
<td>Key components Capital equipment</td>
</tr>
<tr>
<td>Biomass Power</td>
<td>5.5 GW capacity target in 11th FYP not met 324 Tons of coal equivalent (TCE) by 2020</td>
<td>Biogas, bio-fuel technologies</td>
</tr>
<tr>
<td>Cleaner Road</td>
<td>500,000 Battery Electric Vehicle (BEV) and Plug-in hybrid electric vehicle (PHEV) fleets</td>
<td>BEV, PHEV vehicles</td>
</tr>
<tr>
<td>Cleaner Rail</td>
<td>Investment up to RMB 3.5 trillion ($ 545 Billion) Increase high-speed track from 8,358 km (1/3 of world’s total network) in 2010 to 16,000 km</td>
<td>Advanced equipment and Components</td>
</tr>
<tr>
<td>Water Supply</td>
<td>60% water intensity reduction by 2020; 30% consumption intensity reduction in industry; Improve 70% of large irrigation districts</td>
<td>Water usage and management technologies; Drinking water products and recycle solutions</td>
</tr>
<tr>
<td>Waste Water</td>
<td>Nearly 50% more standards; More urban/rural wastewater treatment plants</td>
<td>Wastewater treatment solution</td>
</tr>
<tr>
<td>Green Buildings</td>
<td>65% energy consumption reduction compared to 1980 building stock</td>
<td>LED lighting, Energy saving solution</td>
</tr>
</tbody>
</table>

Source: China’s 12th Five-Year-Plan and China Greentech Initiative Analysis (China Greentech Initiative, 2011)

For example, wind power is one of the most popular cleantech invest sectors. China has owned a total 44.7 GW wind power capacity by 2010, of which 18.9 GW capacity was newly added in year 2010 (Wind-tech International, 2011). This reflects a 42% increase in only one year. In 2010 China invested about US$ 10 billion in wind power out of world total wind power investment of US$ 20.5 billion, which means 50% wind turbine went to China in this year (Solar Thermal Magazine, 2011). Similar stories also happened in solar panel industry in China: market analysts estimate that the demand for solar cell equipment from China in the first three quarters will exceed 10 GW, which represent half of the worldwide market of 20 GW (Huang and Teng, 2011).

After China published its 12th FYP (Five-Year-Plan) in March of 2011, the cleantech organization “China Greentech Initiative” made a market analysis based on this new FYP guideline, which covers many cleantech sectors including renewable energy, water treatment, clean vehicle, green buildings, etc. (see Table 3) This can provide a snapshot for some China’s cleantech market with a much more quantitative outlook. The data can again reflect the determination of China government for green development in the future. The continuous policy promotion will not only

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7 See footnote 1
bring domestic cleantech market booming, but also tremendous market opportunities for foreign cleantech companies.

3.4 Cleantech in Sweden

Sweden is considered to be one of the cleanest countries in the world with best environment and ecosystem status. In 2010’s Environmental Performance Index (EPI) analysis, Sweden ranks No.4 by top level performance out of 163 countries worldwide (see Table 4). The great environment in Sweden is partly due to the long history of Swedish Environmental legislation and governmental policy effort, as well as huge investment in cleantech R&D and applications. Sweden is a world leader in both cleantech technology and cleantech applications. For example, renewable energy resources accounts for 40% of Sweden’s total energy consumption, which is far ahead of European Union’s average level of 8% (Yu, 2009).

Table 4: 2010 Environmental Performance Index Rank and Scores for Selected Countries

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>EPI Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Iceland</td>
<td>93.5</td>
</tr>
<tr>
<td>2</td>
<td>Switzerland</td>
<td>89.1</td>
</tr>
<tr>
<td>3</td>
<td>Costa Rica</td>
<td>86.4</td>
</tr>
<tr>
<td>4</td>
<td>Sweden</td>
<td>86.0</td>
</tr>
<tr>
<td>5</td>
<td>Norway</td>
<td>81.1</td>
</tr>
<tr>
<td>7</td>
<td>France</td>
<td>78.2</td>
</tr>
<tr>
<td>17</td>
<td>Germany</td>
<td>73.2</td>
</tr>
<tr>
<td>20</td>
<td>Japan</td>
<td>72.5</td>
</tr>
<tr>
<td>61</td>
<td>United States</td>
<td>63.5</td>
</tr>
<tr>
<td>121</td>
<td>China</td>
<td>49.0</td>
</tr>
<tr>
<td>123</td>
<td>India</td>
<td>48.3</td>
</tr>
</tbody>
</table>

Source: 2010 EPI Results (Yale Univ. & Columbia Univ., 2011)

According to the data in year of 2008 from SCB (Swedish Statistic Agency) and Swentec (Swedish Environmental Technology Council), there are about 6500 Swedish companies with employees of over 41,000 in cleantech sector. The turnover of Swedish cleantech is 135 Billion SEK (about US$ 21 Billion) in 2008, where the export accounts for 37 Billion SEK (about US$ 5.6 Billion) (Swedish Statistic Agency, 2009). These companies cover nearly all the cleantech niche sectors, including: waste management, water treatment, wind and solar energy, bio-fuel, sustainable building, etc (see Figure 5). By niche turnover, the top three sectors in Swedish cleantech are waste management and recycling, sustainable building and energy efficiency, and bio-energy sector (see Figure 6).

However, among so many of cleantech companies (over 6500 entities), 80% of them are micro enterprises (<10 employed), 16% are small companies (11-49 employed), 4% of medium companies (50-249 employed), and only 1% are big companies (>250 employed) (Swedish Statistic Agency, 2009)\(^9\). That means except less than 70 big companies, all the others in Swedish

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\(^8\) The 2010 Environmental Performance Index (EPI) ranks 163 countries on 25 performance indicators tracked across ten policy categories covering both environmental public health and ecosystem vitality. These indicators provide a gauge at a national government scale of how close countries are to established environmental policy goals. The results are research from Yale University and Columbia University in collaboration with World Economic Forum and Joint Research Centre of the European Commission. (Yale Univ. & Columbia Univ., 2011)

\(^9\) The definition of SME (Small and Medium Sized Enterprises) is based on European Commission Recommendations in 2003 and 2005 (European Commission, 2011)
cleantech industry are SMEs (Small-and-Medium-sized Enterprises). Although these SMEs are the important innovative cells in the whole cleantech industry, they are facing many difficulties in development and internationalization, e.g. lack of financial capital, weak in R&D capacity, and risk averse in internationalization.

Figure 5: Number of Swedish companies in each cleantech sectors in 2008

![Number of Companies](image)

Source: data from Swedish Statistic Agency

Figure 6: Swedish company Turnover by cleantech sector in 2008

![Turnover in Million SEK](image)

Source: data from Swedish Statistic Agency

The technology advantage and government encouragement drives fast increase for Swedish cleantech export (see Figure 7), and that is also including dramatic export rise in China. For example, between 2008 and 2009, the Swedish cleantech engineering export to China increased about 51%, from 1,463 million SEK in 2008 to 2,219 million SEK in 2009 (Nylander, 2010). And in year of 2009, China is the second largest export country for Swedish cleantech, following Germany in the top (CENTEC, 2011).
3.5 Swedish Cleantech in China

China is Sweden’s largest trading partner in Asia, with export turnover of 12.4 billion just from January to April of 2011 (Swedish Statistic Agency, 2011). Over 600 Swedish companies have been established in China in terms of office, branch, or production and R&D facility (Ministry for Foreign Affairs, 2010). This number of Swedish companies continues to increase. According to the data from Swedish Trade Council, there will be almost two new Swedish establishments in China every week (see Figure 8). In addition of Swedish companies, Swedish government organizations also actively present in China, e.g. Swedish Trade Council (STC), Invest in Sweden (ISA) own their offices in China (Ministry for Foreign Affairs, 2010).

In cleantech related cooperation with China, Swedish government agencies and official organizations play important roles, and they actively develop relationship and contacts with China’s environmental agencies to improve the influence of Swedish cleantech and business involvement. Swedish Environmental Protection Agency has cooperated with Ministry of Environment Protection of China to involve in many projects in China with topic of eco-city, green building, sustainable transportation, etc (China-EU Association, 2008). In 2007, the Swedish Embassy in Beijing established CENTEC (Center of Environmental Technology) to promote advanced Swedish technology in energy saving, sustainability and other cleantech fields.
Sida (Swedish International development cooperation agency) has invested about 1.21 billion SEK from 1994-2004 in cleantech projects in China, which covers fields in water and sewage treatment system, regional urban heating and so on (China-EU Association, 2008). A number of memoranda of understanding (MOUs) have been signed by the two countries covering a wide range of fields in water treatment, waste management, chemical disposition, drinking water protection, etc (Ministry for Foreign Affairs, 2010). Other organizations like Swedish Trade Council (STC) also provide great support and help in cleantech business for Swedish companies in China. For example, STC has helped many Swedish SMEs to enter China and setup their offices and other facilities. And STC has become the number one choice for information consulting and hand-on help to many SMEs pursuing to enter market of China. (Swedish Trade Council, 2011)

Many Swedish cleantech companies take their best cleantech to China for local projects all over China. For example, Purac involved in at least nine different water treatment projects in mainland China; Envac installed its vacuum waste collecting system in projects in Tianjin, Shanghai, Guangzhou and other cities; SWECO takes the design and plan for projects for Shanghai EXPO Sweden Pavilion, Tangshan Caofeidian Ecocity, etc; Östberg wins many contracts in China for their high-tech dust fans applied in buildings. (CENTEC, 2011)
4. Theory

The two main theories used for this thesis are theory of guanxi and theory of business network. Guanxi is deep rooted in China for thousands of years. When Chinese people talk about business, no one will deny the importance of guanxi. The thesis topic is closely connected with China and Chinese, and that is why such a theory is introduced for analyzing the cases. At the same time, popular business network approach is applied to verify its theoretical adaptability for China market.

A relative long passage is used to explain guanxi, because it is a social and culture pattern of China and it is not easy to describe it in a concise and brief way. Many examples are added from understanding of authors by their native Chinese background, and it could help foreign readers to have a clear and vivid picture of the intangible culture pattern.

For the theory of business network, two popular models are selected: one is Johanson and Mattsson’s model (Johanson and Mattsson, 1988), and the other is Johanson and Vahlne’s Revised Uppsala Model (Johanson and Vahlne, 2009).

4.1 Theory of Guanxi

Guanxi is one of the modern words which came to English vocabulary from Chinese. From its basic verbal meaning, guanxi could be translated into “interpersonal relationship”, “relationship”, “connections”, “network”, etc., which is according to the practical context or situations. For thousands of years of Chinese history, guanxi is regarded one of the most important concepts which exist and dominate social activities of Chinese people. From personal life to business, from neighborhood relationship to inter-country policy making, people can look, hear, feel and experience guanxi everywhere in China.

In general, guanxi can be defined as “interpersonal linkages with implication of favor exchange, reciprocal obligations, mutual trust and personal sentiment or affection” (Luo, 2007). Guanxi could also stands for the meaning of a cluster of relationship connections, e.g. “guanxi wang” in Chinese means “guanxi network”.

4.1.1 Guanxi Base

The establishment of guanxi depends on the availability of guanxi base, which is defined as common attributes shared between two or more people (Luo, 2007). The type of guanxi base varies by the contextual situations, which can be exemplified into some categories below:

**Kinship:** one of the most important guanxi base, which come from immediate or extended family members. The kinship guanxi base could be people with blood type relationships (e.g. father’s brother or son of mother’s sister) or people with affiliated marriage relationships (brother-in-law, or wife’s relatives). The kinship based guanxi is generally considered as most reliable and trustful relationship because of the natural bindings and obligations. In Chinese people’s mind, the notion of family is much more extended than western countries (Chee and West, 2004). Many people belonging to the same kinship relations are regarded as family members. For example, it is very common to see the three-generation-family members live together in China (which means the family contains grandfather-father-son like relationship); In many rural villages in China, nearly all the male members in the village own the same specific surname, and that reflects the strong clan membership they own. The natural trust and obligations from kinship guanxi make it very

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10 All the words in Chinese in the paper utilize the Pinyin System, which transcribe Chinese Characters into Roman Alphabets by specific pronunciation rule.
easy to build strong ties with kinship members in helping or supporting the business or other events.

**Locality and dialect:** this often happens to immigrants who have moved from their birth-origin region to another place for study, work or residence (e.g. people from Beijing move to Shanghai for college or work). The group with the same origin locality, who always have the same dialect, often establishes personal relationship for helping each other, sharing experience and so on (Kiong and Kee, 1998). For example, many Chinese regional chamber of commerce, and Alumni Associations are build for this reason. It is easier to understand this guanxi base, because the people from the same locality own the similar culture, custom, habits, and the dialect is one of the common manners they can recognize each other. This locality or dialect guanxi base can expand to much wider geographical regions with the immigrating of Chinese people, e.g. the Chinese immigrant are connected for business in term of Chinese Chamber of Commerce in Europe, US, Canada, etc. and these Chamber of Commerce could be sub-divided by smaller origin regions, such like Cantonese or Fujianese\(^{11}\) (Chinese) Chamber of Commerce. The similar situations are also popular in some Southeast Asian countries (e.g. Singapore, Malaysia, Indonesia, etc.) because many local citizens are Chinese immigrants or their descendants.

**Common Experience:** people who work at the same company (colleagues), people who study in the same college (classmates or alumni), people who serve together in the army (army comrade), are popular examples belonging to this guanxi base. They shared the same experience, or know each other for a long time (e.g. more than one year), and during such a relative long time they have opportunity to frequently get in touch with each other and know more about them. The mutual trust and personal affection can be developed during such shared experience together, and it forms such a group that people can build solid and stable guanxi with.

**Friends:** Because friendship could be developed from many sources and reasons, this type of guanxi base is used widely for guanxi building. It links unknown people to become acquaintance and further to be friends. Sometimes this guanxi type could overlap with previously mentioned types, such as locality or common experience. Many Chinese have in mind that people are easy to develop some extent of friendship after their acquaintance; many reasons can lead to friendship building between two acquaintances, e.g. frequent contacting, benefits sharing, favor giving, resource exchanging and so on. For example, a Chinese businessman met another one during a business flight in the cabin or exhibition talk, and they could develop their acquaintance by further email, telephone call, MSN chatting, even dinner or travel together if they are in the same city. All of this could improve their mutual understanding and friendship, and this is just one snapshot of thousands of guanxi building stories. The commitment and favor giving during such process are regarded as key factors in their friendship guanxi building, and the built-up guanxi could further bring opportunities or resource sharing in a future time.

The guanxi base categories can also be divided by other classifications. For example, one scholar applied categories of family and kinship, neighbors and native places, non-kin relations of equivalent status, and non-kin relations of superior and subordinate status (Yang, 1994). Another classified the groups into blood bases (family members, relatives, clan members) and social bases from one’s social life (e.g. acquaintances from school or work) (Tsang, 1998).

\(^{11}\) Canton (or named Guangdong) and Fujian are two separate province in China, which located in the southeast coast of China, and they are the top two largest immigrants abroad origins in China due to their special geographical location and long history of international trade and commerce.
The most popular classification for guanxi base could be the distinction of three types: namely family members (Jiaren 12), friends and acquaintances (Shuren), and strangers (Shengren) (Langenberg, 2007).

If one typical Chinese is selected as the focal target to analyze his or her guanxi base, each guanxi base type can be compared by its trustworthiness and group size in Figure 9. Although this figure is not based on precise data from research but on our experience and analysis, some interesting findings can still be found for different guanxi sources.

**Figure 9: Relationship on Trustworthiness and Group Size for guanxi base type**

![Figure 9: Relationship on Trustworthiness and Group Size for guanxi base type](image)

Source: based on authors’ experience knowledge and analysis

The kinship is one of the most important guanxi bases because of its natural high trustworthiness. Many big Chinese enterprises are controlled by family members. For example, Li Ka-shing 13 who ranked 11th in Forbes World’s Billionaires in 2010, owns his tremendous family enterprise with many of his family members; Liu Yonghao 14 and his three brothers hold one of the biggest family enterprises in China, New Hope Group.

However, this core guanxi base just has limited numbers to account for. To make it worse, the group size for Chinese family is shrinking due to the “One-Child-Policy” 15 in China. China’s census data shows that the average persons in each Chinese family is 3.13 in 2005, compared with family size of 3.92 in 1990 and 4.81 in 1979 (China News, 2005; Xinhua News, 2008). That means the potential kinship guanxi base is becoming smaller and smaller by generations. Although today the kinship is a key base for guanxi, the authors believe this type of guanxi source will turn to less importance in the future. Now in China, there is a popular new phrase namely “The Second Generation Millionaire”. It means the only child of the family in their age of twenties or thirties will inherit family wealth from their parents to become young millionaire. This reflects a weaker link between family enterprise and its clan members than before, because fewer people are eligible for managing family enterprise or sharing its wealth.

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12 Here, Jiaren (家人), Shuren (熟人) and Shengren (生人) are the Chinese Pinyin forms which stand for the corresponding meanings.
13 Li Ka-shing (李嘉诚) is the wealthiest person in East Asia, and he is the chairman of Hutchison Whampoa Limited (HWL) and Cheung Kong Holdings. (source from Wikipedia)
14 Liu Yonghao (刘永好) is the chairman of New Hope Group (新希望集团) and he is considered one of the wealthiest people in Chinese family enterprises. (source from Forbes.com)
15 It is the policy introduced in 1978 for population control and family planning in China, which strictly restricts married urban couples having only one child; from 1979 to 2011, this policy has prevented 400 million births in China. (source from Wikipedia)
Luo (2007) argues that the importance of locality and dialect base will become weaker or even diminished over the time, because later generations become more economically independent and more actively interact with larger society. We support Luo’s argument from China’s Urbanization perspective. China is experiencing the largest urbanization in the world with huge amount of rural people rushing into cities for work and living. By 2011, about 47% of the populations live in the cities of China, compared with only 20% for this figure in 1980 (China Greentech Initiative, 2011). United Nations forecasts this urbanization rate will reach 60% by 2025 and 80% by 2050 (China Greentech Initiative, 2011). The inland migration trend of China is changing the country in demographics and culture. The Chinese urban families are more economically independent but less community connected with other families than the traditional rural families. It largely reduces the tie and identification of locality as guanxi base, because people live in form of individuals and small family unit (3.13 persons in one family on average), so that locality or dialect will be less decisive in interpersonal trustworthiness and guanxi building.

However, this might be different for younger Chinese emigration today (Skeldon, 2011). To be a minority ethnic out of China, the locality could improve the identification of Chinese emigrants, and it may become a stronger tie for Chinese living in a foreign country. But this estimate from analysis needs further research to support.

When the kinship guanxi base becomes weaker, the non-kinship guanxi base (such as common experience and friends base) will emerge by its importance. More guanxi will be built via classmates, alumni, workmates, friends and so on. Some Western research provides similar results to show four stages of customer relationship: Strangers, Acquaintances, Friends and Partners. The different levels can be compared to a ladder where each step up, starting from a stranger, symbolizes a gradual increased interaction of relationship building with customer (Zeithaml, Bitner and Gremler, 2006).

With the analysis for guanxi base, it can be concluded that in general guanxi is based on family (Jiaren) or acquaintance and friends (Shuren), but not strangers (Shengren). If family members (Jiaren) are regarded as natural insiders for guanxi, acquaintances and friends should belong to insiders transferred from outsiders, and strangers (Shengren) is no-doubt outsiders (see Figure 10). Guanxi can only be built between insiders.

**Figure 10: Different guanxi bases relationship**

![Guanxi Bases Diagram](image)

Figure 10 also shows that family (kinship) stays in the core of guanxi base, because it is the most recognized orientation for Chinese society. The second is friend (or acquaintance) in peripheral, with less closeness than family but much trustworthy than strangers. The last is strangers far away from the core, who are unknown people as outsider in relationship. The dynamic of guanxi makes it possible for outsiders to become insiders in some certain circumstances. For example, an intermediary person can connect such two parties. In China, business people make friends at first,
and then they start to build business relationships (e.g. customer, supplier, partner, etc.) The key of transition is the time consuming relationship building process with Personal Affection (ganqing) and Social Obligation (renqing)\textsuperscript{16}. Even a person owns many guanxi base, it does not mean he can really built such many guanxi relationships, because the cultivating of personal affection and bonding of social obligation are so time consuming and resource costly. Furthermore, even if guanxi or friendship had been successfully built, further engagement is needed to maintain such a relationship. Guanxi could gradually cool-off or fade without cultivation (Langenberg, 2007).

In general, the trustworthiness is strongest in the core for kinship, and it becomes less strong when it comes to friends, and much weaker in the utmost peripheral for strangers. Similar case can be found all over the world. For example, in western Venture Capital industry, many “business angels” often tell the entrepreneurs who require financing in their beginning of the business: only “3Fs” are willing to give money to such entrepreneurs, and they are “Family”, “Friends” and “Fools”. The story of “3Fs” is just a joke, but it reflects people’s trust when risk exists.

### 4.1.2 The Mechanism of Guanxi Functions

The mechanism of guanxi functions can be explained from many aspects, e.g. culture, psychology, anthropology, sociology, economic, etc. No matter what insight is based, the resource exchange is a critical characteristic to analysis guanxi relationship. At the beginning of this chapter, guanxi is defined as “interpersonal linkages with implication of favor exchange, reciprocal obligations, mutual trust and personal sentiment or affection” (Luo, 2007). The favor exchange can reflect the core of resource exchange. As a matter of fact, the resource for exchange in guanxi relations can be in many forms, e.g. in terms of personal affection (in Chinese: ganqing, 感情), social obligation (in Chinese: renqing, 人情), social power, information, and economic benefits (e.g. money). The resource exchange takes place with the reciprocity (in Chinese: Huibao, 回报) and evaluation of reputation or face (in Chinese: Mianzi,面子).

\textbf{Figure 11: Guanxi Functions Mechanism}

\begin{center}
\includegraphics[width=\textwidth]{guanxi_functions_mechanism.png}
\end{center}

\textsuperscript{16} Ganqing and Renqing are corresponding Chinese Pinyin form for meaning of personal affection and social obligation respectively.
Figure 11 shows connections amongst different guanxi components and how guanxi takes function in general. When two actors in a guanxi tie are active, the notion of resource exchange and reciprocity are the core link to the function of guanxi, with ganqing, renqing and mianzi as necessary elements to affect the behaviors of the two guanxi actors.

Next some key concepts in guanxi will be explained. Because it is difficult to find an English word or phrase to explain the Chinese notion in exact original meaning, the Chinese terms is illustrated in form of Pinyin17.

**Ganqing (Personal Affection)**

Ganqing is the personal affection or human feelings involved in guanxi relationships (Luo, 2007). Obviously, the extent of ganqing for different guanxi base is different. For example, one person will certainly have much more affection in family members than in friends. The affection is developed during the shared experience and its degree depends on the emotional commitment in such an experience. In general, the more the favorable impression, the more the affection is, in other words, the more ganqing involved between the guanxi actors. In daily life, if one person has a deeper affection with someone, he will be more willing to share his personal resource to them. The same principle is also available for guanxi: the more ganqing involved between two persons, the stronger their guanxi ties are.

The developing of ganqing is based on shared experience of social activities. Except family, to develop a deeper affection or human emotion between people is so time-consuming and sometimes resource costly. For example, a friendship and ganqing can be built between two classmates due to their time together in the college life. They could be together for class, travel, shopping, dining, or sports. The happy time sharing gives them strong ties with mutual trust and deep interpersonal affection. This relationship is therefore hard to break due to the gradually accumulated affection.

However, someone also argues that the value of ganqing and guanxi is not static but dynamic with time (Luo, 2007). The emotion feeling might become weaker by the lack of continued commitment; this is why the cultivation of ganqing ties in guanxi is so important. For example, in the case mentioned above, the ganqing developed during the college will gradually diminish without frequently contacting by friends after their graduation. The maintenance of ganqing is necessary in guanxi cultivation, which can refer to Chinese customs such as periodical contact by telephone or mail, dining together, party invitation, gift-giving in festival holidays.

**Renqing (Unpaid Obligation) and Huibao (Reciprocity)**

It is hard to find a word to translate ‘renqing’ from Chinese language into English. However, it is very easy to understand it by simple explanation. Renqing is just like an unpaid obligation which someone owed to the others after he received their favor giving. For example, one can ask his friend to recommend a job where the recommendation and advice from this friend is decisive in the recruitment. If that person successfully got the job offer, he would owe a renqing to his friend for the favor giving, and this “unpaid obligation” should be “repaid” in the future (Zhang and Zhang, 2006). That means the favor recipient has to repay the favor giver by the principle of reciprocity. The trust and commitment during this “favor giving and repaid” process are strengthened; in result, the ties of guanxi relations are reinforced.

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17 See footnote 10
Renqing is analogized into indebtedness by Chinese people, namely “renqing debt”. Like financial debt, “renqing debt” has to be paid sooner or later. Such a renqing does not only refer to favor of help, any other favor in forms of gift, information, or even emotional supporting and encouragement in guanxi is all considered to be “renqing debt”.

The favor exchange in guanxi is a reciprocal process. In Chinese this reciprocity is named “Huibao”. It means the favor received has to be repaid off with another favor or gift-giving to show the respect and appreciation for such a guanxi relationship. In western networks, reciprocity often entails exchange of favor with roughly equivalent value and proceeds immediately. In Chinese guanxi, this reciprocity did not contain strictly time limit; in other words, it could be or expects to be repaid in the future (Zhang and Zhang, 2006). Furthermore, the value of repayment could be different (in most of the time it is equivalent), and it prefers to be repay higher value favor in guanxi by Chinese, which means “you gave me a small help, and I will repay you a big favor”.

Sometimes, the favor giving and renqing owing are behaviors by intention of people for future benefit or guanxi building. For example, the Chinese parents always teach their children to offer their favor or help to others for the purpose of guanxi developing with them. The philosophy behind such a deed is that the intentional offered help could facilitate guanxi building between people, because the owed renqing would be repaid sooner or later in the future. The reciprocity process can actually enhance the guanxi building between people. The favor offered today is like a guanxi investment for tomorrow, in purpose of potential resource for exchange in guanxi. In this sense, scholars resemble guanxi to Pierre Bourdieu’s concept of “social capital” (Gold, Guthrie and Wank, 2002). The social capital can provide potential resources to people who got mutual acquaintance and recognition from other groups (Gold, Guthrie and Wank, 2002). Chinese like to offer renqing to those who are considered important or useful for their future life, and it seems like to deposit “treasures” to the personal social capital bank.

Another example for intentional renqing in guanxi is gift-giving in China. Although this case often connects to discussion of corruption and bribe in China by scholars, gift-giving is accepted by Chinese for thousands of years and much situation of gift-giving is with not only instrumental purpose but renqing investment and greetings. Now the gift-giving has brought gift economy during festivals and holidays in China. When any festival comes, all the people will take the chance to give gifts to their boss, friends, relatives, etc. From primary school pupil to multinational managers, all the Chinese use gift-giving to show their favor offering, for maintaining their guanxi relationships.

**Mianzi (Face)**

Mianzi is an indispensible component in guanxi system. It can be directly translated into “Face”. Face is the most important part of human body that shows personal image to others and this image can be remembered and recognized by others. Mianzi is actually with the similar functions, which is about one’s self-respect, prestige and dignity. Mianzi is the image of one person to the others, and the image is gained by wealth, power, intelligence and even attractiveness (Chee and West, 2004). The recognized mianzi by others reflects one’s social status and actual wealth or power (Lin, 2011). So when a person asks for favor from others, his/her mianzi will be evaluated or judged by the counterpart actor in guanxi. The higher the person’s social status or image is, the more mianzi he/she will maintain or be recognized, which means others are more willing to offer their favor or owe him/her a renqing. Mianzi is just like a credit card: the more you have in account, the more credit you will be given (Chee and West, 2004).
In Confucian philosophy of China, Chinese are educated from young to keep patience and calmness to react to suffering or difficulty, and to balance dispute or conflict. In business negotiations, Chinese are observed by foreign partners to be emotion controlled and gesture moderated (Fang, 1999). One explanation of this could be “face (mianzi) giving”. Chinese believe anyone should be given enough mianzi (face) to maintain his/her social image or personal dignity. That is why Chinese seldom behave radical and always try to control emotions, especially in the occasion of disagreements or disputes. It is avoided for Chinese to intensely argue with others in public, because they think the counterpart will lose their face (mianzi), which means hurting or damaging their prestige and dignity.

When connecting to discussion of renqing, it should be the same. When someone is asking another for a favor, he will hope the other show him positive feedback due to his mianzi (face), in spite of later favor exchange for renqing. However, if he was refused by the other, he will think he has lost face (mianzi). And this feeling of losing face (mianzi) might seriously affect the guanxi between the two actors, which could even lead to guanxi broken up.

4.1.3 Principles of Guanxi

Luo (2007) gives a very good summary of principles of guanxi, and it could be concluded as guanxi is: (1) transferable; (2) reciprocal; (3) intangible; (4) utilitarian; (5) contextual; (6) long term oriented; (7) personal.

The elaboration of each principle is not only based on literature, but also involved with many interpretations from the authors of the thesis, which comes from their native Chinese understanding for Chinese culture and society.

1) Guanxi is transferable.

Here “transferable” means anyone can be connected with new guanxi member with the help or introduction of an intermediary person. In other words, two strangers can become friends by introduction of a common intermediary. It is a very common phenomenon not exclusive for guanxi in China. However, based on guanxi mechanism, several points are highlighted here:

First, guanxi development generally requires long time contact to enhance trust and commitment between the actors, but transferred guanxi from a trusted person can largely reduce the time consuming in such a process. When a guanxi is transferred to someone, the trust for this guanxi relation is transferred in parallel to the third party. For an extreme example, a father can easily transfer his guanxi to his son or daughter.

Second, to transfer a guanxi to someone is actually offering him a renqing, which implies future favor payback from him.

Third, mianzi (face) involves in such a guanxi transfer process. Whether or not an exclusive guanxi is introduced to someone depends on his mianzi (face) in the intermediary person. The better image or prestige one person owns, the more possible he will be offered a potential helpful guanxi from others.

Fourth, because renqing is involved in such a transferred guanxi, people are likely to take this practice intentionally to raise their renqing to the others. Spontaneously introducing an exclusive guanxi to another is one strategy for Chinese to develop a new guanxi relationship. Meanwhile it could helps to enlarge one’s guanxi network, because if one offers a help, he will surely receive a reciprocal favor later.
Fifth, no guanxi can be built or developed without a guanxi base. So the intermediary is critical in guanxi building. Finding the right person who owns powerful guanxi network is the first key step to build a useful and effective guanxi network.

2) Guanxi is reciprocal.

Reciprocity is key principle for guanxi. The favor giving and benefit receiving is the two way process. If anyone breaks the rule, the guanxi relationship is in danger.

3) Guanxi is intangible.

The guanxi building is an intangible process. There is no sign or benchmark in guanxi building to show that you have successfully formed relative strong guanxi with another, even the favor exchange and reciprocity are both implicit “game rules”. You cannot see it, but if you obey the rule, “game” is becoming tough or completely over. Many behaviors based on guanxi are actually relying on mutual trust for each other.

4) Guanxi is essentially utilitarian rather than emotional.

Although personal affection (ganqing) takes important role in guanxi building, it only covers a small scope of guanxi group (e.g. family, close friends, etc.), and in most occasions guanxi is reciprocal and utilitarian types. Due to long time personal emotion cultivation, when guanxi is considered as tools to facilitate social activities such as business, it is more for an instrumental purpose.

5) Guanxi is contextual.

Guanxi behavior is perceived different by people due to specific context. Luo gives us a vivid example (Luo, 2007): your gift-giving of a carton of Marlboro cigarettes to your boss is conveying or perceived with different meaning by context. If your boss just became father of his second son, this is regarded a acceptable culture of gift-giving; if you are in a discussion for promotion by the board members in the company, this might be seen as instrumental; if you want to help your youngest brother to find a job, this might be considered as bribe (Luo, 2007). So the cultivation of guanxi is more like an art than science (Luo, 2007). This also improves the difficulty for foreign companies to cultivate their guanxi in China, because some contexts for guanxi in subtle culture background can only be understood by local Chinese or people familiar with such a culture.

Edward Hall in his researches defined “context” and compared “High Context” and “Low Context” culture (Hall, 1976; Hall, 1990). Chinese culture is a distinguished High Context culture, compared with Swedish or German culture, which belong to Low Context. The high context culture is characterized with implicit in communication, multiple cross-cutting ties, hierarchy oriented, etc, while the low context is more often manifested by explicit in communication, more transferable knowledge, rule oriented, etc (Hall, 1990).

6) Guanxi is long-term oriented.

With over five thousand years history of China, Chinese are always viewing the world in a cycle or circular style, such as seasons brings warm and cold, dynasty of nation established and diminished periodically, power of people raised and declined by time; all the things might be
connected together, and one tiny factor could lead to failure in the end. Guanxi in Chinese will follow the same principle. When people decide to develop a guanxi relationship, they always hope it to be a long term oriented (although in practice the cultivation of guanxi needs further input of time and resource). In general, if a Chinese offer someone a favor, he never thought he should get a repaid favor at the same time, because this favor could lead a better guanxi construction and potential help in the future. This can explain why Chinese people will keep in touch with their past neighbors, former colleagues, even primary school classmates, after decades of years. All these people are regarded as important part of their guanxi network, and they could play a vital role in some time when needed.

The same result of this long term oriented view is reflected by Geert Hofstede in his famous culture dimension studies (Hofstede, 1991). One of the dimensions which Hofstede focused is Long-term vs. Short-term orientation by people from different countries with corresponding culture backgrounds. Results show that Chinese have a relative highest degree (by index score of 118 on the top) of long term orientation over the 23 survey countries. In contrast, Scandinavian country Sweden got index score of 33 in the survey, which reflects Sweden is a relative short-term oriented country (Hofstede, 1991).

However, there will never be an unchanging rule in Chinese culture, especially when China is experiencing its most radical capitalization and urbanization. The authors believe it is true for traditional Chinese to follow a long term based view on guanxi building, but many other factors are also challenging the mind of today’s Chinese on their social values and culture customs. One of the critical ones is utilitarianism and money-worship. The desire of wealth and money can drive people behaving in a short term orientation. For example, investors and entrepreneurs today in China are not willing to make long term investments, and they hope to shorten the cycle of investment return as soon as possible; opportunism is overwhelming in business; even many young college graduates expect to become millionaire like Jerry Yang and Jack Ma18 over night without painstaking efforts. When this comes to guanxi building, many Chinese will also choose short term strategy to get benefit quickly, and this will lead to a utilitarian guanxi which we will discuss later in this paper in the section of ‘typology of guanxi’.

7) Guanxi is personal.

All the guanxi are actually interpersonal relationship based. The guanxi base, affection and obligation involved, and the process of guanxi developing all shows guanxi to be established and maintained in persons. This means the guanxi between organizations in fact belongs to individuals in the organization. It is so difficult in transferring personal guanxi to organizations. When the individual leaves the organizations, for most of the time, this organization would lose the guanxi linked with this person. This enables organizations quite hard to manage their guanxi inside.

However, another point may shed light on guanxi strategy for organizations. Due to the great influence of guanxi in China, any guanxi must connect with some individual(s) in the organization. This could lead to the strategy to develop personal relationship and guanxi with this person instead of cultivating guanxi with an organization. In other words, finding the right key person is decisive for guanxi building in organizations, and a proper intermediary could facilitate this process.

18 Jerry Yang (杨致远) is the cofounder and chairman of Yahoo.com; Jack Ma (马云) is the founder, chairman and CEO of Alibaba.com, which is one of the most successful Internet related business in China; both of the people are often regarded as business legend and entrepreneur hero by young people in China. (source from Wikipedia)
In China, numerous cases could illustrate this personal guanxi linkage with organizations. For example, China is now putting the largest investment in the world for construction of High-Speed-Railway Transportation. This enormous government investment of hundreds of billions dollars attracts many domestic and foreign companies to fight for the contract. However, many big contracts would no-doubt win by some large State-Owned-Enterprises (SOEs). One reason is that many top managers or bosses for these SOEs which won the contract, were former government officers or leaders in related government departments in the past. If the bidding between government and companies is a gamble game, they have won the battle in half when a strong guanxi with “insiders” existing in the company.

4.1.4 Typology of Guanxi

The complexity of guanxi base and guanxi function mechanism makes it difficult to analyze guanxi as a whole. And the typology will greatly help us to better understand how structured and functional guanxi works in Chinese culture.

Table 5: Three Typologies of Guanxi

<table>
<thead>
<tr>
<th>The type of relationship</th>
<th>The obligatory type</th>
<th>The reciprocal type</th>
<th>The utilitarian type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chinese term</strong></td>
<td>Qinqing Guanxi</td>
<td>Renqing Guanxi</td>
<td>Jiaoyi Guanxi</td>
</tr>
<tr>
<td><strong>The scope of the relationship</strong></td>
<td>The family members, the relatives</td>
<td>Fellow countrymen, classmates or alumni, and colleagues</td>
<td>Mere acquaintances</td>
</tr>
<tr>
<td><strong>The nature of relationship</strong></td>
<td>Psychological identification</td>
<td>Favorable exchanges</td>
<td>Rent exchanges</td>
</tr>
<tr>
<td><strong>The factors motivating the relationship</strong></td>
<td>Responsibility and obligation</td>
<td>Reciprocity</td>
<td>Utilitarianism</td>
</tr>
<tr>
<td><strong>The factors maintaining the relationship</strong></td>
<td>Full trust</td>
<td>Trust and reputation</td>
<td>Less trust</td>
</tr>
<tr>
<td><strong>The duration of the relationship</strong></td>
<td>Longest</td>
<td>Longer</td>
<td>Temporal</td>
</tr>
<tr>
<td><strong>How to enter into the relationship (or guanxi base)</strong></td>
<td>Blood and marriage</td>
<td>Common background or experience</td>
<td>Common background, an intermediary</td>
</tr>
</tbody>
</table>

Source: reproduce from Zhang and Zhang (2006: 381)

Here a framework of typology is borrowed from study of two Chinese native scholars (Zhang and Zhang, 2006), and Table 5 shows details of the typology for our further analysis.

Looking through this typology in Table 5, it is easy to find that this framework is basically categorized by guanxi base. The nature of the guanxi base group will take influential effect on development and behavior in different types of guanxi relationships.

The obligatory type

Family and kinship are the foundation for this type of guanxi. It could be regarded as strongest guanxi type. Blood and marriage linkage bring natural identification and full trust to actors in this type guanxi. This can lead to almost naturally bonding relationship, and guanxi building for this is nearly without need of time and resource, which is called “qinqing (亲情)” guanxi. “qinqing” means Family Affections. Due to this special relationship, this type of guanxi is important in
intra-organization relations, especially in terms of shared ownership and control of business among private organizations (Luo, 2007).

Because personal affection (ganqing) involved in this type of guanxi is very deep in natural, the obligation is rooted in this guanxi. In general, the individual in higher rank or social status has the obligation to help those guanxi members in lower rank or social status (Zhang and Zhang, 2006), and it is rendered in most cases without anticipation of reciprocity (Luo, 2007). On the other hand, the family member who receives favor will repay the favor provider with gift or other favors to show the loyalty (Zhang and Zhang, 2006).

Even kinship relations should also be maintained and managed in many Chinese mind. Gift-giving is one of the popular and effective ways in this purpose. In China, when any important national or traditional festival holiday comes, people will have a home visit and send various kinds of gifts to their family members and relatives. Most of time, this gift will be given in person to the recipients to show the respect. In return, the recipient relatives will have another visit to the home of gift providers to show loyalty and gratitude. In such a way, mutual trust and tight bonding are strengthened in family members.

The reciprocal type

The advantage of obligatory type guanxi cannot hide its defect of small scope of guanxi group. The wider guanxi relationships for an individual should belong to the reciprocal type (Zhang and Zhang, 2006). It is based on group of members with common background or shared experience. Mutual trust for this guanxi is in a relative high level despite lower than family members. Most guanxi members in this type can be regarded as “Friends”.

Reciprocity based on exchange of favor is the core for this type of guanxi (Zhang and Zhang, 2006). The favor anyone offered or received is measured and marked as renqing (unpaid obligation). In your personal guanxi “bank”, the more renqing you are owed, the wealthier you are in terms of guanxi “treasure”, which could become powerful social capital in the future; the more renqing you owe others, the more mianzi (face) you own, but all these received favors should be repaid in any forms sooner or later, or you will break the ‘Golden Reciprocity Rule’ in guanxi.

However, maintaining such a reciprocal type guanxi network is time consuming and resource costly. Trust and reputation cannot be developed in one day, and it requires gradually and incremental commitment in development of guanxi.

The utilitarian type

This type of guanxi is built mostly for pure utilitarian purpose with those acquaintances. However, it is based on common background or intermediary to form the guanxi. This guanxi base can distinguish utilitarian guanxi with other social relationships, such as buyer and seller relationship which is a legal and contractual relationship (Zhang and Zhang, 2006). In most cases, this utilitarian guanxi usually connects uneven ranked people, where low rank people often ask for help from high rank counterpart, and repay with money or material forms (Zhang and Zhang, 2006). As such a result, this type guanxi is often viewed as a ‘fee-for-service’ because of its transactional nature (term “transaction” in Chinese: Jiaoyi, 交易). If no further commitment involved in such a guanxi, the mutual trust can hardly be improved. So this could often lead to “one-time-deal” for this guanxi, in other word, the duration of this guanxi is usually very short. In
the most extreme form, the utilitarian type is inevitably closely associated with corruption and bribery (Zhang and Zhang, 2006).

4.2 Guanxi Network

Because any individual may have many different kinds of guanxi and numerous relationships with other people in his life, guanxi can be understand from a network perspective.

4.2.1 Guanxi Network vs. Social Network

It will be easy to understand guanxi from functioning of ‘facebook.com’ or ‘Linkedin.com’, because all these popular websites are based on social network from the reality world.

Figure 12: Symbol of Individual Network vs. Social Network

Figure 12 can help to illustrate guanxi network and social network. When one individual is selected as object for analysis, he is surely connected with different people from his born, e.g. his parents and siblings, family relatives, school classmates, colleagues, acquainted friends, etc. all these people will be linked to this person with strong or weak ties, and form a complex and huge network. Everyone lives in their own network to interact with others. Some networks are exclusive; some are overlapped due to common links; some are gathered as a cluster due to common organizational behavior. That is the basic idea of social network. The same principle of social network can also be applied to organizations.

Think about ‘facebook’: if you are a student in Linköping University, many contacts of yours must come from such a common background or shared experience. All the people connected with you will form your network based on your college. One day in last semester, you met another person from University of Berlin, who is an exchange student to your home university. You two became friends due to study group for the same course or happy time in a party. From that time, that German is part of your network. What is more, the acquaintance or relationship between you two is like a bridge to link both yourselves and your exclusive networks. This “bridge” breaks the opportunity for you to get to know more friends in University of Berlin, in city of Berlin, or even in Germany, which are all possible geographical regions your new German friend’s social network could cover.
A famous experiment done by sociologist Stanley Milgram broke the traditional view of people for our world. This namely “small world experiment” suggests that there are on average no more than six degrees of separation between you and any other person on the planet (Hammond and Glenn, 2004). In other words, if a message is sent from Person A to a thoroughly unknown Person B, the average links between the two will be six persons who have interpersonal relationships. This astonishing experiment and Milgram’s six degrees of separation theory shed light for many Website business based on social network.

As a matter of fact, guanxi network in China functions like a tremendous “facebook”. Guanxi network not only contains high school classmates, college alumni, but also family members, neighbors, county fellows, work colleagues and business acquaintances. Just like involving in one’s social network requires common experience identification, guanxi building also needs guanxi base as prerequisites. The family bonds, common background or experience, or an intermediary are characteristics of guanxi base (Zhang and Zhang, 2006).

However, even you own a guanxi base; it does not mean that you have successfully set up guanxi with the people in that guanxi base. For example, an alumna of yours is now a CEO of a company who is potential customer of your business. To develop a guanxi with this alumna could bring new business to you, and obviously you and this person already has some preliminary common background. However, to become a friend to this person has a long way to go with further opportunity for acquaintance, commitment for each other, mutual trust building and so on. This means guanxi base cannot ensure a further guanxi building.

In social network, strong ties and weak ties are terms to identify links and its degree between interpersonal relationships. Strong ties like family members, classmates, and friends can provide easier linkages and identifications between people in a network. Strong ties are critical for social network, because they give us security through reliable and trustworthy relationships. Weak ties are those random and remote links with neither natural bonds (e.g. family and marriage) nor common experience, but those weak ties often bring new opportunity, asymmetric information and innovative ideas to existed personal social network (Hammond and Glenn, 2004).

In contrast, guanxi distinguish people as “insiders” and “outsiders” like strong and weak ties in social network (Hammond and Glenn, 2004). The “insiders” are those who already have close links or relations with each other, e.g. family, colleague and classmate; the “outsiders” are those people who have not links yet or without any common background or experience. Actually, guanxi base is the touchstone for “insiders” and “outsiders” in guanxi. Shared experience or intermediary can help an “outsider” becoming an “insider”.

Similarity of guanxi network and social network can be seen from the shared or similar parts between the notion of guanxi base in guanxi and strong and weak ties in social network. Firstly, they are overlapped in some extent. The people in guanxi base are generally regarded as “insiders” with stronger ties or closer relationships. And those without guanxi base are in contrast considered as “outsiders” with weaker ties or distant relationships. For example, by guanxi typology categories given before, the obligatory type and reciprocal type guanxi are relative with stronger ties, while the utilitarian type guanxi belongs to weaker ties relationships. Secondly, new guanxi network links or social network ties can be established via intermediary. The intermediary is the common base for new relationship development. It is like a bridge to connect two previously exclusive guanxi network or isolated social network. When the new relationship finished its build-up, overlapping network will bring new opportunities for resource exchange, information sharing, and network interweaving and extending. Thirdly, further commitment should be engaged to improve the mutual trust to maintain the guanxi or strong ties.
Meanwhile, the difference can clearly distinguish guanxi network from social network due to “reciprocity by resource exchange” in guanxi, which is not marked by social network. This can partly be regarded as mainly different driving force or motivation between guanxi and social network. We have discussed some motivations for guanxi in the section of typology of guanxi (see Table 5): for different guanxi bases, the motivation can be divided by obligation/responsibility, reciprocity, and utilitarianism. Except the first driving force within family members, the other motivations in guanxi are more or less in instrumental purpose. By contrast, many cases in social network are not belonging to the obligatory or instrumental purpose, but natural or intentional linking by interpersonal interest, emotional feelings, or non-beneficial (or at least not reciprocally beneficial) reasons. In this sense, the social network is much wider than guanxi network.

If further analyzing this “instrumental purpose” of guanxi, it could be argued that guanxi network will be more intentionally established or developed than general social network. For example, if people want to make new friends to enlarge their social network, generally speaking, this new friendship will be built on similar values or morals, mutual good feelings, common interests, or purely benefits (e.g. being helpful for business purpose); however, when the same desire of making new friends comes to guanxi network extending, people will in some extent be purposely or intentional to build this friendship in guanxi, because the new friend in guanxi network means new opportunity or potential help in the future. Some examples can support this point. For example, Chinese young people are often taught by elders that they should learn how to get together with those whom they dislike; in China businessmen even make friends with people they dislike or hate (although this friendship is just superficial or fake) to pursue the potential benefits or balance in other guanxi (because this boring person might have good guanxi with another common friend); “Always smiling when you face people, even you dislike this guy, but never express dislike on your face”.

4.2.2 Guanxi Network vs. Business Network

Business network can be defined with social exchange theory from social network studies as: “a set of two or more business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors” (Chetty and Blankenburg Holm, 2000: 79). These actors include competitors, suppliers, customers, distributors and government (Chetty and Blankenburg Holm, 2000: 79). In other words, business network is part of general social network, and it focus on business purpose. The analysis of social network is helpful to understand business network. Although the definition from literatures takes an organization view, the core decision making players in each organization are still individuals or group of people (Johanson and Mattsson, 1987). Therefore the same principles from social network can also apply to business network.

Business network covers each players and stakeholders in business, and the ties between each two players are built on business value chain in purpose of business benefits or profits. On one hand, a firm has to connect and integrate different players in the value chain (Porter, 1985), and these players will build ties with the firm to form its business network. On the other hand, the driving force or motivation of business network is much clear than general social network, which is namely maximizing the business profits. In this perspective, business network is a much more “intentional” or “purposely” social network and its scope will be limited with players related with business practice.
Guanxi network largely relies on interpersonal relationships, while business network more depends on firm’s organizational behavior. When it comes to individuals in microscope of business network, people in each firm are actively developing interpersonal relationships with people in other firms on purpose of maximized profits. In China, those interpersonal relationships in business can partly be covered by guanxi scope, and people call it “Business Guanxi”. It is in fact used by organizations (firms) but based on individual links.

Figure 13: Relationships of Guanxi Network, Business Network and Social Network

In background of China, Figure 13 can structure the relationships among Guanxi network, Business network, and Social network. The common shade part shared by guanxi network and business network is “Business Guanxi”, which is defined to limit the guanxi specially used in business purpose. Figure 14 shows different dimensions of business guanxi by players.

Business guanxi can be divided into three dimensions: Horizontal (Business) guanxi, Vertical (Business) guanxi, and Lateral (Business) guanxi. Where horizontal guanxi focuses on guanxi of firms and their competitors; vertical guanxi deals with firms’ relationships with upstream players (e.g. supplier) and downstream players (e.g. distributor and customer).

Another necessary discussion is the relations for guanxi in personal and organizational bases. Individuals are basic elements for each organization, and they are also independent decision-making entities (Zhang and Zhang, 2006). Although guanxi is based on interpersonal relationships and regarded as ‘personal property’ of individuals, it can be used and beneficial to organizations (Zhang and Zhang, 2006). In this sense, guanxi becomes organization assets when guanxi is used by organizations through individuals belonging to the organizations (e.g. managers, employees) (Park and Luo, 2001). Organizational guanxi is fundamentally based on interpersonal guanxi relationships. However, individual guanxi did not change into organizational belongings, despite it is used by organizations. In other words, the value of individual guanxi will not diminish even though it brings benefit to organizations when used (Zhang and Zhang, 2006).
Some patterns exist in guanxi establishment between individuals and organizations (see Figure 15). In Figure 15, four general modes can be found (Zhang and Zhang, 2006):

1) **Pattern A**: if two individuals are from the same organization, they will establish a personal guanxi due to “membership” behavior to the organizations. E.g. colleagues, project team members are all this case.

2) **Pattern B**: if an individual belongs to two different organizations, this person is actually becoming the link for the two organizations, and the initial guanxi between the two organizations is based on interpersonal guanxi for this linking person. E.g. a professional consultant who is hired by two different companies can potentially build guanxi for these two companies.

3) **Pattern C**: if two individuals are from two different organizations without any previous links, the two organizations can build guanxi when the two individuals own interpersonal guanxi.

4) **Pattern D**: if two individuals from different organizations know a common intermediary person, they can build personal guanxi at first, and then the corresponding organizations can be connected later.
4.3 Business Network Internationalization

The internationalization of the firms has been studied for many years by scholars, with many theories and models developed to explain the organizational behavior of internationalization. Such theories are different by approaches applied: from FDI theory model (e.g. effect of market imperfection, transaction cost) in the beginning to the stage process model (e.g. Uppsala Model) later, and then to foreign entry mode strategy and contemporary business network approach (Rialp and Rialp, 2001). Different theories and models will not be compared; the focus is on the Business Network Internationalization theory.

The business network approach draws on theories of social exchange and resource dependence, and focuses on firm behavior in the context of a network of inter-organizational and interpersonal relationships (Rialp and Rialp, 2001). Firms are involved in business network, and they are connected with other players with direct or indirect relationships in the network. The players include competitors, suppliers, customers, distributors and government (Chetty and Blankenburg Holm, 2000). The business network study focuses on firm’s behavior and relationships with these players.

4.3.1 Johanson and Mattsson’s Model

One of the well-known models is Johanson and Mattsson’s (1988) Internationalization network matrix, which is shown in Table 6.

Table 6: Johanson and Mattsson’s Model for internationalization

<table>
<thead>
<tr>
<th>Degree of internationalization of the market</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of internationalization of the firm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>The early starter</td>
<td>The late starter</td>
</tr>
<tr>
<td>High</td>
<td>The lonely international</td>
<td>The international among others</td>
</tr>
</tbody>
</table>

Source: reproduce from Johanson and Mattsson (1988)

This model applied a two degree matrix to measure and to explain the internationalization behavior for firms, which is divided by low and high degree of internationalization of the firm and the market respectively. In other words, in this model the firm’s own behavior and other players’ behavior in the market will together influence one firm’s internationalization. The firm and those other active players are connected by business network. The assumption beneath this model is that a firm requires resources controlled by other firms, which can be obtained through its network positions (Chetty and Blankenburg Holm, 2000). The market internationalization degree for the matrix is defined within the scope of ‘production net’ which refers a firm’s relationships in production area (Chetty and Blankenburg Holm, 2000).

‘The early starter’ enters the international market without so much knowledge and experience, and at this time the other players in the market are also domestically focused. ‘The lonely
international’ has enough experience and knowledge to enter a relative low internationalized market. ‘The later starter’ follows others to active play in the international market. ‘The international among others’ compete in a highly international market in spite of enough international experience. There are both pros and cons for each strategy the firm chooses, and the internationalization status will also change due to the dynamic network and market situations.

4.3.2 Johanson and Vahlne’s Revised Uppsala Model

The Uppsala model (or named U-Model) is a famous stage based process model to analyze internationalization, which was first developed by scholars from Uppsala University (in Sweden) in 1977 (Johanson and Vahlne, 2009). This model considers the firms’ internationalization as a learning process through gradually accumulated foreign market knowledge (Rialp and Rialp, 2001). The 1977 U-Model consists of two variables to illustrate such a dynamic process of internationalization: one is ‘State aspects’ with market knowledge and market commitment; the other is ‘change aspects’ with commitment decisions and current activities (Johanson and Vahlne, 2009).

The authors revised their dynamic process model based on business network perspective in 2009 (Johanson and Vahlne, 2009).

Figure 16: Revised Uppsala Model from business network aspect

Figure 16 shows the Revised U-Model from business network perspective. This model is based on two aspects. First, the relationship between firms involved in their network is so complex and invisible, so to become “insider” in relevant network is very important for successful internationalization. Second, the relationship in network provides potential opportunity for learning and for trust-building and commitment, which can improve and facilitate firms’ internationalization (Johanson and Vahlne, 2009).

During the process of internationalization, firms are frequently involved in a set of different close and lasting relationships with other players in the relevant business network, such competitors, suppliers and customers. And then the business network not only enables firms to exchange their resource, acquire knowledge about foreign market, but also provides firms chances for learning, trust-building, development of commitment and exploiting new business opportunities (Johanson and Vahlne, 2009). And this is reflected in the components of the revised Uppsala model (see Figure 16). The details about the model will be explained by different blocks.
Knowledge and opportunity: The knowledge in the process of internationalization covers market knowledge (e.g. language, laws and regulations, market information), experience (e.g. tacit knowledge from previous internationalization practice), as well as relationship-specific knowledge (e.g. knowledge developed from interacting with others in the business network) (Johanson and Vahlne, 2009). All the knowledge is served for recognition of business opportunities, which will directly and indirectly influence firms’ internationalization strategy and behaviors. According to network view of markets, firms have privilege access to information about their relationship partners and their business network (Johanson and Vahlne, 2009: 1419). And such knowledge from network can extend firms’ capability of resource integration as well as opportunity finding.

Network position: From business network perspective, a firm’s internationalization is tightly connected to its position in the relevant business network. That means the interactive practice and relationships with other actors in the network will take a critical role in one’s internationalization process. For example, a large portion of new entries of Swedish SME in China is following their big customers or pursuing low cost suppliers (Lundgren, Xu and Hjorth, 2009). In other words, the firm is likely to follow the partner to a foreign market if the partner has a valuable network position in that foreign country (Johanson and Vahlne, 2009). The firm’s internationalization is in purpose of new opportunity (e.g. cost reduction) or to demonstrate commitment to some relationship (e.g. effort to keep a big customer) (Johanson and Vahlne, 2009).

Learning, trust, and commitment: Learning is a gradually continuous process in internationalization. In business network, learning by experiencing is necessary in the process of relationship building with other players. The accumulated knowledge and information from learning pave the way for firm’s internationalization. Trust is an important ingredient for successful learning and development of new knowledge (Johanson and Vahlne, 2009: 1417). When a firm did not have enough knowledge for a foreign country, it can use a trusted intermediary (e.g. trade agency) or hire trustworthy local professionals or consultants. In such cases, trust is the foundation of the learning process, and even substitution of direct learning. Trust is also prerequisite for commitment. When people have trust with each other, they can devote commitment to further develop such a relationship, and the mutual trust will be enhanced at the same time. However, in such a dynamic process, if no commitment is further engaged the trust can only stay in a low level or become weaker with time. Trust can persuade people sharing information and resource; however, trust-building is a costly and time consuming process (Johanson and Vahlne, 2009).

In the Revised U-Model, the psychic distance is no longer that important due to the globalization and development of Information and Communication Technology (ICT), but it still shows indirect influence to firms’ internationalization. The knowledge and network position reflect present status of internationalization for a firm, and further trust, commitment and learning can change both knowledge and firm’s relationships in its business network, which integrate into dynamic process of internationalization shown in the model.

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19 Psychic distance is defined factors that make it difficult to understand foreign environments, e.g. language, laws and regulation, culture, etc (Johanson and Vahlne, 2009).
4.4 Theoretical Framework of the thesis

Figure 17 shows the theoretical framework of this thesis. Guanxi and guanxi network is so important for business network building; the business network is also the critical tool for internationalization analysis; all the three theoretical blocks together become the framework to analyze our target: the Swedish cleantech SMEs in China.

Figure 17: Theoretical framework of the thesis
5. Empirical Findings

Primary and secondary data are used as empirical input for the analysis. The primary data comes from face-to-face interviews with stakeholders from relevant organizations; the secondary data is sourced from website information, public material and publications, organization documentation, etc. Four cases are sourced from both Sweden and China. The selection of the cases is based on the pre-study of cleantech market in China and Swedish cleantech SMEs. At first, four propositions are raised by the information of the pre-study, and then the target is to find corresponding case to analyze and understand each proposition. The propositions are explained in detail in the section of analysis part. In this section, the emphasis is on the empirical findings from the case studies. Due to the request of interviewees, the names of related interviewees of Chinese firms and one Swedish firm will be hidden, and the anonymous names are used to protect related information. The basic information of interviews is shown in Table 7.

Table 7: Summary of basic information for Interview cases

<table>
<thead>
<tr>
<th>Title</th>
<th>Company Name</th>
<th>Location</th>
<th>Interview Date</th>
<th>Interview Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO</td>
<td>Alpha AB(^{20})</td>
<td>Sweden</td>
<td>2011-04-14</td>
<td>2 hr</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>Alpha AB</td>
<td>Sweden</td>
<td>2011-03-24</td>
<td>2 hr</td>
</tr>
<tr>
<td>Chairman/CEO</td>
<td>Cleantech Östergötland</td>
<td>Sweden</td>
<td>2011-02-25</td>
<td>2 hr</td>
</tr>
<tr>
<td>Manager</td>
<td>Tianjin Capital Environmental Protection Group Co. Ltd</td>
<td>China</td>
<td>2011-05-27</td>
<td>1 hr</td>
</tr>
<tr>
<td>Project Leader</td>
<td>Tianjin Supvino Technology Co. Ltd</td>
<td>China</td>
<td>2011-05-13</td>
<td>1 hr</td>
</tr>
</tbody>
</table>

5.1 Case 1: Alpha AB

Alpha AB is a Swedish private SME. It was founded in 2002 for developing and sales of high-tech equipments. Their product is widely applied in many industrial and civil arenas. The CEO is a Swedish entrepreneur, and the Sales Manager is a native Chinese, as well as the wife of the CEO.

Alpha AB started to develop their first product system from 2005, and the system successfully launched into market in 2007. From the beginning, the firm is targeting its sales in international market worldwide, and that is mainly because their core product is for a very small niche market and international customers. The company can only survive with searching for customers anywhere in the world who needs the system. The first customer of the system is from United States, and then from Australia, and from other countries. Alpha AB has built a global distribution network, which covers many countries and regions in the world, including Sweden, Finland, Norway, Germany, China, Korea, Australia, United States and so on. Generally, the company will take efforts to develop both customer and agent, where the later will in charge of customer developing in some certain country or region.

Using network for product sales is the most important strategy of the company, and the success of the business is partly due to its strong and reliable business network. The business network is built up gradually with effort for years. For the core product of the company, the CEO has over

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\(^{20}\) Alpha AB is an alternative firm name instead of the real firm name by the request of anonymity from interviewees.
30 years experience in related industry and he is considered as one of the most experienced experts in that arena. So the CEO himself owns a broad personal network in the industry that his company focused on, which becomes a strong foundation in business network from the beginning. Except personal network, the customers are from other channels, e.g. customer in relevant exhibitions and self-built network. Continued commitment also plays an important role in business network building. For example, Alpha AB built a company branch in Australia to follow and fully support its customer in local, and this branch led to not only more successful customer contracts in Australia, but also a reliable agent (namely, Company Beta) for Australian customers in recent years. The Agent Company Beta’s strong network enables Alpha AB’ business extends to more East Asian countries including Singapore, Malaysia, Philippines, and Indonesia.

When the CEO mentioned building business network, trust is emphasized again and again for its critical role in such process, no matter for winning a customer, or finding a reliable country agent. “I develop business by meeting people.Normally we do not discuss my product, we talked about my family, the climate, the financial crisis, the difference in culture. If they feel that I am a trusted person, and I will not try to fool them and I am really the one way who wants to work with them, then I can recommend anything. I make people believe in myself in person. Because when I make the contract, normally I do not sell my product, I sell myself.” The CEO said in the interview.

When the Sales Manager joined Alpha AB, the company started to expand its business to China. They started to look for contacts in China in 2007 by the friends of this Chinese Sales Manager in China. She fully uses her previous guanxi in China to making contact for the business, and handles different events and people in such process. The company also made a product application demonstration in a city of China later by efforts of the Sales Manager and her contacts in China, but it was not very successful due to unpredicted local conditions. The previous contacts they found are proved to be not professional and efficient. No successful contract happened in the next two or three years until they signed the first contract with a Chinese customer in 2010. The key progress is in large extent due to Mr. S, who is the brother of the Sales Manager. His personal network and business talent provides great help in this successful deal. Now Mr. S is in charge of the company in China as their China agent.

The trust and guanxi are the most critical factors for Alpha AB’s business in China. The CEO said: “since today I am in a Chinese family, of course, no one wants to try to go behind my back or try to cheat me, and everyone tries to do best together. That is the most secure and very good way to do it. Because of that, I think as a Swedish person, I have an extremely reliable and good way to make business in China. Because I trust my wife (the Sales Manager) 200%, I trust her relatives, I trust her friends, and you are one family.” When it comes to the Sales Manager for her opinion for success of Alpha AB in China, she just has one line: “it (the business in China) is nothing else but guanxi.”

5.2 Case 2: Cleantech Östergötland

Cleantech Östergötland is a Swedish non-profit organization with its offices in the cities of Linköping and Norrköping in Sweden. The organization is an association built to take the strength of environmental and energy technology in the region of Östergötland county, especially for twin cities of Linköping and Norrköping in this region. The missions of the organization is to increase visibility and support the environmental technology companies in increased, more effective collaboration and in that way expand business opportunities. Cleantech Östergötland is organized by a company built with the name of ‘Miljöteknikcentrum i Östergötland AB’ (MTC), which is owned 40% each by the municipalities of Linköping and Norrköping and 20% by Linköping University. In other words, the organization, together with the connected company, is
Building up successful network is what the member companies mostly emphasized, and it becomes one of the most important works for the organization. It provides its members with market information, customer contact, and policy analysis and so on to bring new opportunities for related cleantech to export and further develop. It also initiates projects to involve company members and customer or government from foreign countries to enhance the business opportunities. For example, BENCH is one of the projects which the organization involved. And this project is to increase business with China, to bring investment from China, and to establish contacts with China. The project applies survey, case study, seminar, etc. to get more information about China’s market, especially for its cleantech arenas.

Cleantech Östergötland arranges business visit for cleantech business. For example, it organizes its member companies to form a delegation to take business visit to China, in city of Beijing, Shanghai, Nanjing, etc. At the same time, the organization would meet with the foreign delegation to Sweden and Östergötland County to get as much business information for local companies. For instance, it has been building relationship with Jiangsu provincial government in China for years, and this year, the Jiangsu delegation visited Sweden and met with Swedish government official and company members for potential cooperation. Based on municipality background, Cleantech Östergötland is in capability to build business network from a higher governmental perspective. However after successfully building the network and contacts for member companies, the organization will not involve in further detailed business negotiation in company level. To be successful or not is then fully relied on firm-specific efforts. When it comes to cleantech business opportunity in China, two reasons for this can be clearly found. Firstly, many big cleantech relevant projects in China are sponsored and financed by governments from national, provincial, or city level. It is very hard and even impossible for individual Swedish SMEs to direct get in contact with such projects with governmental parties. Secondly, when building the business network with foreign customers, network with governmental departments is much more reliable and trustworthy than company individual behavior. The built-up governmental networks can transfer the trust and provide security for successive company-to-company business. However, the governmental network building cannot fully ensure the further firm level cooperation, which still largely depends on firm-specific commitments for each other.

When it comes to culture difference in business between Sweden and China, one practice is that the organization hires a native Chinese for its formal employee (not part-time consultant). This provides great help in communication problems due to language difference, as well as strengthening the capability to timely handle and analyze Chinese market or policy information (because most of local information in China is only in Chinese language). Another benefit is the Chinese employee can bring a new and different culture to the organization in its decision making. Although recognizing culture difference between China and Sweden, Mr. Gert Kindgren did not think Swedish companies have to do as Chinese do or vice versa. In other words, when Swedish is doing business with Chinese, it is not necessary for anyone to change their own styles and adapt to the culture of counterpart, but building an “island” with mixed culture in the middle.

In detail, Gert said: “it is important for both Swedish and Chinese to learn the culture of each other, but Swedish should not change their culture for the business purpose to adapt their Chinese clients, nor should the Chinese. When people mentioned doing business in China, many of them will go to learn to speak Chinese, know more about Chinese culture etiquette, and so on. From my point of view, that is unnecessary. We find understanding, and we can build a third culture to balance the culture difference of each other. It is like an ‘island’ with mixed culture located in the
middle of Swedes and Chinese, based on the respect for each other. Such ‘islands’ are totally connected to the people involved and is strengthen by references to what the parties have experiences or achieved together. If we cannot find such ‘islands’ we probably cannot do business with each other either — the chemistry has to be there, and that’s something you cannot learn.”

5.3 Case 3: Tianjin Capital Environmental Protection Group Co. Ltd (TCEP)

Tianjin Capital Environmental Protection Group Co. Ltd (TCEP) is a Chinese state-controlled stock listed company, which is located in city of Tianjin in China. Tianjin is the third largest city in China with population of 12.28 million, which is 200 km far from Beijing in north China. TCEP is a leading company in water treatment industry of China with over 30 years of experience in waste water treatment and water supply operations. Over 80% of industry and civil waste water in Tianjin City is treated by plants operated by TCEP. The company has built one of the best labs for water treatment technology with excellent R&D development capability. As a water treatment operation company, TCEP’s own business covers business of sewage treatment, recycled water and water supply. It is also expanding its business to a wider arena in other cleantech sectors, e.g. urban heating and cooling service.

The Manager for interview has working in this company for many years, and he is experiencing the dramatic change in China’s cleantech market in recent years. He said: “If back to six to seven years ago, few people in China like to talk about environment or cleantech, and there is not so much national investment in environmental facility in China. You cannot imagine private company or venture capital will focus on cleantech sector at that time.” However, China now focuses on “green development” with more investment in cleantech facility, cleantech R&D, cleantech patenting and international cooperation. Even like this, there are not so much international players or firms in cleantech industry than others in China. It is a newly developed industry with great market potential.

When mentioned technology cooperation with foreign companies, the Manager argues that European companies will become their first choice for TCEP. One of the leading countries is Sweden due to its famous environment friendly policy making and clean environment status. Network building is very important for company when it is looking for partners. TCEP is cooperating with Swedish Environmental Research Institute (IVL) and Environmental department of Royal Institute of Technology (KTH). The cooperation is mainly focused on research and technology development, and they have good relationship with each other for years. TCEP hopes to build a wider network with foreign companies and universities to enhance its R&D capability. However, the company also meets difficulties in finding proper international partners, because it is hard to find a specific company with certain cutting edge technology worldwide, even just in EU countries. There is not a sufficient information platform they can refer. The path of looking for partner is mostly by their word-of-mouth or by ‘lucky contacts’. To find effective contacts is considered as first barrier in this process. Compared with big foreign companies, the company is more willing to cooperate with foreign SMEs, because they are much flexible than bigger ones, and the cost for patent and technology purchasing will also be cheaper. However, companies in previous network will be considered with priority when it comes to new potential partners.

One of the main concerns for foreign advanced technology is the adaption for practical application in China. “Many advanced environmental technologies behave perfectly in their home country, but when it is transferred to China, the technology had a much worse performance. For example, when we transfer some water treatment technology from Sweden to China, it could be problematic, because no city in Sweden has a population of 10 million people like Tianjin in China. ” said the Manager.
5.4 Case 4: Tianjin Supvino Technology Co. Ltd

Tianjin Supvino Technology Co. Ltd is Chinese private SME with 12 employees located in Tianjin, China. The company focuses the market of green building in China, and it develops and installs intelligent house lighting system in industrial or civil buildings. The system can automatically change the house lighting intensity with the environment and customer requirement to save the energy and improve power efficiency of the building. The company is a licensed distributor of Schneider Electric for its lighting control system.

The company actually did not develop the whole system part by part, and it integrates existed blocks and components from suppliers into a full lighting system. The market for intelligent lighting is very big but highly competitive in China. Green building is such a large industry which involves thousands of domestic and foreign companies. Besides its own intelligent lighting system, the company also installs system for other companies for their projects, and this accounts for a large portion of company income.

In China, the big project for green building is mainly taken by big State-Owned companies or giant multinationals. And then each piece of cake will be sub-divided by small companies. Supvino is one of them. Due to the company size and limited competency, it is very difficult for it to win contract directly from real estate developers. More often it will become a sub-contractor for big companies. Whether or not it can win the sub-contract of system installation rely on company capacity, engineering cost, word-of-mouth, and what is the most important, guanxi with those bigger and stronger players. So the competition for SMEs in this industry is fierce. Because many SMEs will cut down their cost as possible as they can to win the sub-contract.

Developing guanxi network is the most important and decisive factor for this SME to win business contract. Each employee of the company is encouraged to maximize their personal guanxi to develop business opportunity for the company. If anyone has successfully built up guanxi for the company which led project contract, that person will surely receive extra bonus from the company. Past customers with good guanxi will bring new business to the company. Part of the company profit is used for dining and gift-giving with people from government, suppliers, big contractors, etc. That is necessary part for guanxi culture in China, because those people to build guanxi with could bring valuable business information and facilitate further business for the company.

The Project Leader gave an example to illustrate how important guanxi is: “One time our painstaking effort and strong guanxi led us to a highly profitable contract in a big building project in Tianjin. At the beginning, everything is going fine, and we were promised to become the contractor for that big project. Everyone in the company was so happy. However, just one day before we would formally sign the contract, another foreign multinational seized that opportunity, and we are finally informed to loss the contract.”
6. Analysis

In chapter three, the pre-study for China’s cleantech market and Swedish cleantech industry can bring an assumption that Swedish technology advantage has a high probability to lead them towards China’s huge cleantech market for profitable business opportunities. When it comes to business practice, many factors require to be considered to fit for complex local market situations. In this part, four propositions are raised from market analysis based on the pre-study, and then the empirical findings and related theories will be discussed and analyzed to explain the propositions.

6.1 Proposition 1 and Case 1

Guanxi is interwoven in the life of Chinese people everywhere in China. No Chinese will deny the critical role of guanxi and guanxi network in their lives, and it is surely no exception for business in China. The first proposition is raised from such a standing point.

**Proposition 1: Guanxi plays an important role in cleantech business in China**

It is a tricky question to ask Swedish cleantech firms whether or not guanxi is important for their business in China, because in the first place guanxi is a Chinese notion to define a China based social pattern. Many Swedish have no idea about what is guanxi, not even thought about it for business. The question should be asked to foreign “Chinese Masters”, those foreign people who have been in China for years and familiar with Chinese culture.

In China, most people will agree with the importance of guanxi in business, because guanxi is a deeply rooted culture pattern in China for thousands of years. That is partly why almost all the Chinese origin scholars and researchers hold their view firmly on the critical role of guanxi in business in China (Chee and West, 2004; Fang, 1999; Kiong and Kee, 1998; Luo, 2007). When foreign executives or entrepreneurs know more about China in business or culture, they start to put their concerns in such a guanxi related topic (Grant, 2006). This leads to the assumption that for business in China, guanxi is very important, even for foreign companies. The close connections between guanxi and business network (Chetty and Blankenburg Holm, 2000; Johanson and Mattsson, 1988; Johanson and Vahlne, 2009), as well as social network theory (Gold, Guthrie and Wank, 2002), shed light on the analysis for guanxi from a much wider aspect.

In case 1, the firm Alpha AB is a small Swedish company driven by technology based niche market. Just like the CEO says, “we are a small company with narrow market niche, and we have to go to international market to find customers for survival”. When we start to study this company, the Sales Manager attracts the authors’ attention and interest, because she is a native Chinese and the wife of the CEO. At first glance, the Chinese Sales Manager seems already to become an advantage for Alpha AB when it comes to its business in China. From either common sense or traditional internationalization business theory, the psychic distance is shorter for Alpha AB than other Swedish SMEs when it goes to new market of China. The barriers of local language, culture difference, market knowledge, business contact, etc. could be solved or facilitated by such a native Chinese entrepreneur in the company. Due to deep rooted role of guanxi in Chinese people, it is also assumed that guanxi plays a very critical role for the firm’s business in China.

Before the Sales Manager joining the company in 2007, Alpha AB has started its internationalization for pursuit of potential customers worldwide. It didn’t follow the rule to begin with short psychic distance regions like Scandinavian countries, but first with customers from United States and Australia. Later the CEO slowly started to build firm’s sales network with both his own personal contacts and other ad hoc market information (e.g. contacts from exhibition or
previous customer). The CEO wants to enlarge firm’s sales network as big as possible, due to the niche market size is very small in each single country.

However, the CEO never thought about doing business in China before the Sales Manager joined company, although he has experience working in China for a short period. After the Sales Manager came to the company, it is her entrepreneurship and ambition driving the company to China market. In such a process, the Sales Manager highlighted the critical role of guanxi: “the business in China is nothing else but guanxi.” Here the guanxi in business contains many factors for information, such as the entrepreneur’s personal background, social network, business contacts, art and skill for business communication, culture understanding, but not only such items listed. The core of guanxi in business is people. The philosophy of guanxi in China is that “who you know is much more important than what you know” (Yeung and Tung, 1996). It means personal connections covered in your social network are critical in your personal life and business, and to know more people with different background, especially those in higher social and professional status, will provide you many opportunities in your business.

Being a native Chinese, the deep rooted role of guanxi in the Sales Manager’s mind enables her to seek for customers in China for the company by following a Chinese specific way, which means guanxi leading approach. The personal contact in China is vital for business. Many her personal connections can have a great help for a Swedish high-tech company to find appropriate people in China, and these connections could be family members, friends, work colleagues, business acquaintances, etc. All the connections in her guanxi network belong to some certain guanxi base groups, who can provide information and business support in a much more secure and efficient way. In the CEO’s mind, the Sales Manager got a very good personal network, and “it seems she can find her friends everywhere in China”.

Some scholars argue that the prevalently using of guanxi by Chinese reflects China’s poor and inefficient regulation and law system, and it enforces people to rely more on personal relationships to enhance the trustworthiness and efficiency (Chee and West, 2004). In China there is still not a complete credit system in business and financing, and this makes it difficult to control personal behaviors in business. The trustworthy level of China is very low, especially in business. The business cheating issues are reported frequently in the media. In many western developed countries like Sweden, it is much easier for people to believe others in the country; but in China people never easily believe others except they have fully known each other. The Chinese businessmen take 200% carefulness in selecting and identifying people or organizations involved in their business. That is why guanxi is so important in business in China. The people introduced from some friends’ network could be much easily trusted and connected for business.

It is efficient to find business contact by guanxi than professional consultants. In one hand, the consultant industry just takes its start in China. Many Chinese know little about consulting and didn’t buy for such a business style. They have got accustomed to the style of looking for business contact by their guanxi network. In the other hand, the intermediary person can not only extend one’s business connections, but also plays as a third party guarantee to enhance the trust between the two business sides. It is just like the function of PayPal in e-business, although it is actually not the same because the intermediary person didn’t have the responsibility or obligation to take such a guarantee role for mutual trust. Anyway, for Chinese they believe people in guanxi network much more than those unfamiliar or ad hoc acquaintances.

In later successful contract by Alpha AB in China, Mr. S, the brother of the Sales Manager, takes important role due to his excellent business skill and effective guanxi connections. And now Mr. S is in charge of sales agent in China for Alpha AB. We can find that the trust from the CEO to the Sales Manager can transfer to her brother, and then to their contacts in China, because the
family membership connects them closely and the trust level between them is very strong. This could be explained by our guanxi base theory, because family is the strongest guanxi base. In this case, the marriage of the CEO and the Sales Manager brings trust of them to an extremely high level; what’s more, the responsibility and obligations together with trust are the motivations for family member of the Sales Manager to take efforts for Alpha AB’s business in China.

Even with the great help from the Chinese Sales Manager and her brother, it still takes about three years to win the first business contract in China. One reason might be the high business uncertainty in the market; another reason could be the long time period for cultivating guanxi network and looking for right contact. It also reflects that guanxi is not everything for doing business in China; however, if without guanxi connections for Alpha AB, the contract from China for the company could be much later in time or even failed. For example, it is so difficult or even impossible for a foreign SME to connect with certain Chinese customers without proper guanxi connections.

A clear guanxi pattern is shown in the business of Alpha AB in China, which is led by a critical Chinese entrepreneur in firm’s decision making. However, what should not be ignored is the affluent internationalization experience of the CEO. He admitted the great help from the Sales Manager, but he also argued that he might be successful without her help, because he has many years of international business and succeeded in sales in many culture-different countries. Such experience could also lead to success in China. This is verified by the Sales Manager. Her culture knowledge advantage and local connections facilitate firm’s business in China, but she is working together with the CEO from beginning to the end, and the CEO’s international experience and business strategy contribute so much for the final success. It is impossible to separate the functions by different factors, so the authors cannot hold the argument that guanxi is more critical than other factors for business in China.

When the CEO is asked about guanxi, it is interesting that he never heard about it before. He emphasizes the role of business network. In his opinion, either the Sales Manager’s connection in China or her family members, they all belong to the business network in some extent. The step by step built up business network will provide more market information as well as more trustful contacts in that country market. The strong network could finally bring business opportunities to the company. For example, the sales agents in Norway, Finland and Denmark are setup based on the CEO’s personal contacts due to his long time experience in the industry. However, to cultivate such a huge business network is so costly and time consuming. His strategy is to keep good relationships with several key persons in his network, and such key persons will help him to extend business network to a larger field. It is impossible for the entrepreneur of a small company to develop market by himself everywhere in the world, and the best way is to develop efficient agents worldwide. In the view of the CEO, the business network functions the same anywhere in the world, no matter in China or in Sweden. In some extent, his view actually substitutes the role of guanxi in China by business network in a general standing point for foreign entrepreneurs.

The business network building is an incremental process, even with someone providing immediate good connections. For example, in case 1, the network building becomes easier due to the Sales Manager’s role in firm, but it still requires long time to enhance trust by continuous commitment for actors newly involved in the network.

6.2 Proposition 2 and Case 2

The pre-study provides information that although the Swedish cleantech industry has world leading advantage in technology, 95% of 6500 cleantech companies are small and medium firms with less than 50 employees. In China, the strong policy driven and government sponsored
cleantech market attracted many world class cleantech giants and required relatively complete solutions in cleantech applications. For example, many cleantech projects are infrastructure projects in water treatment, energy supply, waste management, etc. with investments over billion dollars. In such a market situation, although the market size is large enough, the Swedish cleantech SMEs still show their disadvantage due to weak bargaining power in big projects, as well as poor integration of clean technologies to meet the full solution requirement. Without proper and efficient business network, it is so difficult for SME to enter such a profitable cleantech market. This comes to the second proposition.

**Proposition 2: Business network facilitates Swedish cleantech SMEs to success in China**

China cleantech market is a market cake big enough for both local and international companies to share. Large amount of investments are sponsored usually by national and regional government on cleantech projects. As an individual player, a Swedish SME might have many barriers to get in negotiation or involved in such big projects.

Firstly, some cleantech industry has very high entry barrier, such as solar panels and wind turbine; Chinese government will prefer local companies, or even intentionally offer supportive policy for such state-owned companies. Secondly, the bargain power for any SME (even if it is a Chinese company) is very weak, due to their weaker capability in technology, investment, brand name, etc. Thirdly, many Chinese government sponsored projects are careful to select foreign partners with the requirement of politic reason, and that means the international cooperation of the project reflects the relationship building of the nations.

The business network building is one of the most important tasks for Cleantech Östergötland. It takes its function as platform to connect many cleantech SMEs in its covered region. The advantages of such an organization are: First, it strengthened the integration of technology for regional cleantech SMEs, and several SMEs who take excellence in their niche could join together to provide whole solution for specific cleantech, e.g. in water treatment or biogas; Second, the SMEs with different roles in value chain could share market information from each other, and even they provide similar technology or product/service, the membership can reduce their peer competition when exporting to foreign market; Third, the organization with government and university background can increase the bargain power of Swedish SMEs.

For Swedish SMEs as strong cleantech providers, Cleantech Östergötland can not only help them to build business network with external market or potential customers, but also integrate separately distributed cleantech SMEs to form a strong internal business network. Each member company in fact promoted their network position in the process of internationalization, because the organization offer them some advantages which only own by multinational companies or global cleantech players. For example, Cleantech Östergötland can invite some Chinese provincial delegation team for negotiation of cleantech projects, and then share the valuable business information to the member SMEs. However, such opportunities can also be gained by international giants such as Siemens, ABB or Vestas, but never for a single SME.

For the reason that many big projects in China are Chinese government sponsored, the cleantech organization plays an important role in network building with foreign government. For example, Cleantech Östergötland has built a very good relationship with government of Jiangsu province in China, and much market information is shared in the communication of bilateral delegation visit. Here the trust between each side plays a decisive role in such a business network building. The government background organization is more trustworthy than any individual SME; and the projects or business information brought by Chinese government delegation team is also trusted than any Chinese company behavior. The enhanced trust delivered and guaranteed by both side
could make the further business communication more smooth and efficient, because trust persuades people to share information, promotes the building of joint expectations, and reduces the uncertainty (Johanson and Vahlne, 2009).

In the Revised U-Model, Johanson and Vahlne (2009) believe that the impact of psychic distance has weakened when a company enters foreign markets, but it still brings barriers for a company’s internationalization. In Cleantech Östergötland, the psychic distance is shortened by hiring a Chinese employee in the organization. The person’s capability in Chinese language and culture background can facilitate communication in China and market knowledge learning about China side.

To become a member in the organization, each Swedish regional SME can extend their business network, gain more business information from the organization, get acquaintance with more entrepreneurs, and share experience and market knowledge for each other. Both market knowledge and network position are critical for state of one firm’s internationalization (Johanson and Vahlne, 2009), and such factors are enhanced by firm’s behavior in the organization. At the same time, the organization also increase their learning and trust building for internationalization. However, another important element in the model is commitment. This cannot be easily promoted by the organization, but depends on each firm itself. That is why Cleantech Östergötland could help its membership SMEs to get as much as market information for their business, but did not involve in their further business negotiation. The purpose of the organization is to promote business opportunities for local cleantech industry, but not help any individual firm to win the contract. If the SME did not take effort for commitment to strengthen their position in the business network, the valuable market information and knowledge will never transfer to real business opportunity.

The business network cannot be separated with guanxi building if it is in China’s context, because guanxi pattern is rooted in behavior of every Chinese people (Chee and West, 2004). However, the chairman and CEO Gert didn’t consider the business between Sweden and China should fully follow culture pattern from any side, even China is the target market side for Swedish cleantech providers. He mentioned a notion of “third culture”, which is different with either Swedish culture or Chinese culture, but a mixture of both. It is just like an island with moderated culture which could fit for both parties for their business. It is built on the personal relation created between the participants and will be different between different business parties. It’s group dynamics in play. If you want to be part of a group, you apply to the group’s code of behaviour, in the beginning created by those who form the group. The notion comes from Gert’s personal understanding and experience, and it provides us a new perspective to think about the culture difference in international business.

6.3 Proposition 3 and Case 3

The pre-study shows a clear image that the cleantech market in China is highly driven by policy makers and government planning. Main investments for cleantech projects or infrastructure construction are from central or local government financing (e.g. bank loans or direct subsidies). In China, government controlled industries are handled by those State-Owned Enterprises (SOE). They are usually big companies with affluent resources and strong business network. Their close connections with government make them much easier to win contract of big projects. In cleantech industry, some SOEs are given supportive regulations and subsidies from government to encourage the development of local Chinese cleantech firms. To enter China’s cleantech market, the Swedish SMEs will inevitably face Chinese SOEs. So the third proposition is:

Proposition 3: It is beneficial for Swedish SMEs to build business network with Chinese SOEs
The case study of Tianjin Capital Environmental Protection Group Co. Ltd (TCEP for short in description) can help Swedish SMEs to get more information of Chinese cleantech SOEs. The manager of TCEP firstly gives us his understanding of cleantech market in China. He thinks cleantech is a new market in China with great potential for development in the next decades. If it is defined by Johansson and Mattsson’s model, the cleantech market in China now has a relative low degree of internationalization of market. In such a situation, the firms entering China’s cleantech market can be divided by only two categories: “the early starter” or “the lonely international”, which are distinguished by its degree of internationalization (Johanson and Mattsson, 1988). Due to more experience and knowledge in internationalization for “the lonely international”, it shows obvious advantage in competing with “the early starter”. However, the market will become much more competitive when more international cleantech companies enter for profit, and when the degree of internationalization of market increases, “early starter” will become “late starter”, and “the lonely international” will move to “international among others” due to more competitors. This will lead to each kind of firms to change their market strategy.

TCEP is running its business in water treatment operation for a megacity in China for over 30 years. The technology excellence of Swedish cleantech provides a word-of-mouth for Swedish firms in their internationalization in foreign market. It works like a brand name to increase the trust for Swedish cleantech companies. This can also explain why famous Swedish cleantech institutes or universities like IVL and KTH will attract a Chinese SOE to develop relationship for research and cooperation.

Lack of contact information is a big problem when building business network. The Swedish cleantech industry is mainly consisting of local SMEs. Although the industry is famous worldwide, it is difficult for it to transfer to firm level, because the excellence of Swedish cleantech exists in each innovative small firm, except for several big companies. Business network building usually starts with business contact, but there is not an effective information platform for Swedish cleantech SMEs. The ad hoc way of looking for contact by TCEP reflects poor integration of Swedish cleantech industry in its technology exporting. The advantage in technology and innovation could be diluted by ineffective industry marketing and promoting.

A company’s internationalization process is closely connected with its network position (Johanson and Vahlne, 2009). The resource and knowledge is unevenly distributed among players in the business network. Building network with Chinese SOEs can take Swedish SMEs more business opportunities and extra resources; because SOEs take critical role in government sponsored projects and cleantech SOEs are well supported by government in financing and policy. The cooperation with Chinese SOEs could overcome many barriers for Swedish SMEs in China. However, the network building with SOEs will be more difficult than with small local firms. One reason might be the low trust between each other. From guanxi theory, a proper intermediary could help Swedish SME to connect with Chinese SOE, but to find a trusted intermediary is not easy.

6.4 Proposition 4 and Case 4

In China cleantech market, except for big local and foreign competitors, the Swedish SMEs have to take the challenge from Chinese cleantech SMEs. The advantages for SMEs are similar for both Swedish and Chinese companies. In general, the innovation of Swedish SMEs is better than the Chinese peers, however, the Chinese SMEs are more familiar with local market and rule of guanxi building. Since China is a guanxi rooted country, in many cases guanxi will be more important than other factors to win the contract for business. In such sense, the last proposition is raised.
Proposition 4: Chinese SMEs will be more competitive than Swedish SMEs due to guanxi building advantage.

The last proposition will be discussed by studying the Chinese SME Supvino Technology. This Chinese company catches the blooming opportunities of cleantech niche of green building in China with a very common business idea. There is not so much R&D competency in technology for the company. Their survival is in a large extent dependent on guanxi building with big players in the industry.

Compared with Swedish SMEs, Supvino is surely much familiar about how to build up guanxi with other players and to catch business opportunities by good relationship in guanxi.

Firstly, Chinese SMEs own a relative strong guanxi base. In guanxi theory, family members and friends are two important guanxi base groups (Luo, 2007). The native Chinese entrepreneurs in Chinese SMEs can use their personal families and friends to develop guanxi relation as possible as they could.

Secondly, it is difficult for foreign entrepreneurs to handle many culture specific etiquettes in guanxi building (e.g. gift giving or dinner invitation) without someone familiar with Chinese culture details.

Thirdly, the cultivation of guanxi in China is a time consuming and resource costly process. It requires continuous commitment and interpersonal involvement (Langenberg, 2007). In other words, guanxi building relies on frequent activities between people, and that is much easier for local Chinese entrepreneurs than the geographically located foreigners.

However, such natural advantages for Chinese SMEs can hardly provide them a competitive advantage when facing foreign competitors. Except some extremely strong guanxi built on families or relatives bases, the majority of guanxi for business is built by intermediary people in purpose of business benefit. In other words, most guanxi in business belongs to the utilitarian guanxi type (Zhang and Zhang, 2006). It is used for temporary business benefit and based on rent exchanging. The skill to build utilitarian guanxi can be copied or imitated by any foreign company, especially when native Chinese are hired for help. On the other hand, when guanxi is used for utilitarianism, the function of guanxi in essence is similar with western business network building. The knowledge for building business network can be transferred to build guanxi with Chinese players.

For example, the Swedish company could gain a good skill by finding a proper Chinese to handle the guanxi building in China. If the person himself owns a strong guanxi network, it is possible for him to extend a Swedish SME’s guanxi network to a good level in a relative short time.

The trust between the foreign firm and its intermediary is decisive for the guanxi building. At the beginning, the trust level for each other could be low, but the trust can be increased by incremental process of communication and understanding. The knowledge and skill gained in previous international business will be helpful in identifying proper intermediary persons and trust building.

After the discussion, it can be concluded that the Chinese SMEs actually cannot gain a long term competitive advantage by guanxi building, and Swedish peers could show better performance if they choose similar business strategy, because innovative technology can add more strength to Swedish SMEs.
7. Conclusion

By the pre-study of the thesis, it can be concluded that the emerging cleantech market in China will provide prosperous business opportunities for Swedish cleantech SMEs. To enter such a huge and culture different market, Swedish companies have to make proper business strategies to facilitate this internationalization process. Business network is one of the important approaches they should consider about.

Based on our case studies, the business network building can have a great help for Swedish SMEs to pursue the opportunities in cleantech market of China. The empirical findings in the thesis strongly support selected theories of business network based internationalization. Business network building is an incremental process, which involves learning, trust building, and commitments to enhance the knowledge and network position for a company with its network players. The close connection between one company and its network actors will bring new knowledge and opportunities.

Trust is critical in such a network building process, because the trust between each other will decide whether or not they can develop a further relationship. In other words, trust is the fundamental for any stable and long term business relationship in a network. Trust will increase when continuous commitment is engaged by players in the network; while it could also become weak if a company only focuses on ‘one-time-deal’ for arbitrage.

Guanxi in business can be partly regarded as Chinese style business network building, with many specific culture pattern based on Chinese context. The core of guanxi is the relationship building between people. It is the same in essence with western business network building. However, there are still so many details in culture, which are different with principles of western business network building, for example, the function of renqing and mianzi in guanxi. From both theory and practice, the scholars and entrepreneurs can distinguish guanxi from general network building. This means the specific culture pattern of guanxi should be paid more attention when it comes to Chinese context. One example is the involvement of Chinese can largely facilitate guanxi building process, because they are more familiar about guanxi principles rooted in Chinese people and their lives than the foreigners.

Some entrepreneurs in the case studies hold the opinion that there is actually no difference between guanxi and business network building, but they can also hardly deny the point that it might be more efficient for foreigners to follow a guanxi pattern in business network building, especially when they hire native Chinese for help in local.

The propositions and related cases selected provide us an explorative way for pursuing the answer for our topic of the thesis. Through the analysis for each proposition and corresponding case, some conclusions can be generated based on case and China market context. First, guanxi plays an important role in network building for China market, and the native Chinese can provide great help in such a guanxi building process. Second, the business network can bring valuable information and business opportunities for Swedish SMEs in their business with China. Third, it is beneficial for Swedish cleantech SMEs to cooperate with Chinese state owned companies in their business network. Fourth, Chinese local SMEs cannot gain competitive advantage by guanxi building because the foreign competitors can copy or imitate with proper strategy to learn the skill to connect with Chinese people in the market.

Business network building is a powerful tool for SMEs in their internationalization. The active involvement with players in the business network can provide SMEs the knowledge and opportunities which are hard to get previously due to their limited resource. The principle of
guanxi building can make foreign entrepreneurs to deeper understand network building in China and Chinese context.

References


Swedish Statistic Agency (2011) *Exports and imports of goods by countries*, [Online]. Available: [http://www.scb.se/Pages/TableAndChart____142266.aspx](http://www.scb.se/Pages/TableAndChart____142266.aspx) [22 July 2011].


