Globalization strategies of Chinese companies

A study of China’s largest telecommunications equipment companies

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SUMMARY

Globalization has been an established term academically for two decades; research within this field has expanded from globalization of markets to globalization of culture, trade, finance, of almost anything, in accordance with the increasing pace of globalization in today’s ever-more interconnected world. Previous global strategy research has focused on companies based in developed economies, due to their dominant positions internationally. Current studies of transnational companies based in developing countries are few in numbers and not strategy-related in nature. This paper aims to fill this particular academic void by focusing on the global corporate strategies of the two largest telecommunications equipment companies based in China – Huawei and ZTE.

The high level of globalization of the underlying market is an essential precursor for the existence of transnational companies implementing truly global strategies. An assessment of the global telecom equipment market using Yip’s 19 globalization forces was conducted within the framework of this study. The result demonstrated a considerable amount of pressure for globalization in 14 of the forces, indicating the telecom equipment market and industry to be globalized to a large extent and degree.

The global characteristics of the entire industry have facilitated the international expansion of Huawei and ZTE. Both have been pioneers among Chinese enterprises in terms of internationalization of sales and operations. As a matter of fact, these two Chinese companies’ international presence does no longer represent mere internationalization; it is rather part of a coherent global strategy in order to achieve global corporate competitiveness.

Four distinctive features were discovered after scrutinizing the corporate global strategies of Huawei and ZTE;

- **China-centric**: Substantial portion of Huawei and ZTE’s sales and revenue are generated from the domestic Chinese market. Chinese nationals are also accounting for half or more of the companies’ overseas staff.
- **R&D focus**: The telecom equipment industry is a highly technology intensive one. These Chinese companies have successfully enhanced their R&D operations by taking advantage of low-cost development in mainland
China combined with advanced research and expertise in developed countries.

- **Foreign partnership:** Huawei and ZTE have actively sought cooperation with renowned foreign corporations in numerous aspects ranging from management practices to auditing to technology research, as part of their globalization process. They have also energetically participated in various industry-related international standardization bodies. The partnerships with foreign firms are a crucial component in ensuring Huawei and ZTE’s product competitiveness and organizational excellence; the cooperation also provides much-needed legitimacy for the Chinese firms in developed markets.

- **Government influence:** The establishment and flourishing development of Huawei and ZTE would not have been possible without their strong ties to the Chinese government and military. The Chinese companies’ international expansion has also received considerable government support and financial backing. The substantial government influence may sometimes affect Huawei and ZTE negatively as well; the companies are from time to time compromised of international deals due to the diplomatic and political play of the Chinese government. They also believe that the government is not sufficient in protecting China-based telecom equipment manufacturers against strong foreign competition in the domestic market.

An overview of Huawei and ZTE’s global corporate strategies demonstrates a remarkable resemblance to the *total global strategy* framework, which states that a company first internationalizes, then globalizes the existing core values and strategies. Unlike other Chinese companies pursuing pure cost leadership internationally, Huawei and ZTE have successfully internationalized and globalized their core corporate strategies of robust R&D focus and partnership-building. Both companies have succeeded in penetrating developing and developed markets, by competing on price as well as on product and service quality.
The results of this thesis bear practical relevance and implication for the international partners and competitors of Huawei and ZTE. Telecom equipment companies based in developed economies should increase their pace of globalization, in order to boost efficiency and bring down operational cost. In certain technology fields, they should also bridge mutually beneficial partnerships with these emerging Chinese companies on the international stage.

For policy-makers and government agencies in developed economies, insight in the globalization process and strategies of technology intensive Chinese companies may provide a basis for shaping the investment promoting activities targeted toward China. By establishing a platform for partnership match-making between Chinese companies and companies in their own countries, the success rate for investment promoting activities may increase considerably in the near future.
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1 INTRODUCTION

The Chinese civilization stretches 5,000 years in history; the vast land had in centuries dominated the world in technology, cross-border trade and culture. Due to a series of events, the country fell behind the West in every aspect during the last two centuries.

In 1978, the Chinese leadership initiated the “open door”-policy and the People’s Republic of China (PRC) began to adopt a market economy system. Since then, the pace of economic expansion in the country has averaged 9.5% annually and the nation’s GDP experienced an eightfold increase during the past two decades (Lees, 1997, p 2). The average mainland Chinese was six times richer in 2002 than in 1980 (NCH, 2005). The Chinese market has already become the largest one in the world for refrigerators and air-conditioners, the third largest for electronics and fifth largest for automobiles (ter Kulve, 2004). Due partly to the tremendous economic expansion in the country, Chinese enterprises have in recent years increasingly stepped up their internationalization efforts in order to compete globally.

“In our world today economic competition between nations is in fact between each nation’s large enterprises and enterprise groups. A nation’s economic might is concentrated and manifested in the economic power and international competitiveness of its large enterprises and groups. . . Our nation’s position in the international economic order will be to a large extent determined by the position of our nation’s large enterprises and groups.”

- Wu Bangguo, Vice Premier of the People’s Republic of China

(Nolan & Zhang, 2002, p 2089)

Globalization is a relatively new term academically that has only existed for two decades; Levitt (1983) proposed the existence of a globalization of markets where competitive price and product standardization would become the new marketing norms. An influx of opinions and research surrounding globalization ensued – the “globalization of finance, of trade, of policy ideas, of culture, of almost anything” (Abdelal & Tedlow, 2003, p 15). The globalization of corporate strategies is naturally no exception, even though there are different ideas concerning what characteristics a truly global market and industry should possess and what corporate globalization strategies are most suitable and useful.
1.1 BACKGROUND

In December 2001, the People’s Republic of China joined the World Trade Organization (WTO) after years of negotiations. It is considered to be a historic milestone in the process of China’s integration with the world economy and business system that bears great significance for large Chinese enterprises (Nolan & Zhang, 2002).

Entry to the WTO has not only opened up the vast Chinese market for foreign enterprises, but also acted as a catalyst to multiply Chinese companies’ willingness and efforts to conquer the global market. The recent wave of expansion efforts by Chinese companies has caught the attention of the international media, as well as governments around the world (Powell, 2005). Several illustrative examples of successful international expansions include TCL, a Chinese consumer electronics firm that purchased the TV production division along with the RCA brand from France-based Thomson in 2004 and Lenovo, a Chinese PC-maker that purchased IBM’s PC-division later that same year (Goodman & White, 2005). In 2005, Nanjing Automobile Group Corp. beat out another Chinese bidder, Shanghai Automotive Industry Corp., to acquire the remains of the bankrupt British automaker MG Rover Group (Zhu, 2005). Active government encouragement has played a major role in initiating and supporting large Chinese enterprises’ internationalization and globalization efforts.

“The state will encourage big state-owned businesses to become internationally competitive corporations by listing on domestic and overseas stock market, increasing research and development expenditure, and acquiring other businesses. The country will develop thirty to fifty large state-owned enterprises in the next five years through public offerings, mergers and acquisitions, restructuring and co-operation.”

- Bai Rongchun, Director-General, Industrial Planning Department
  State Economic and Trade Commission, July 2001
  (Nolan & Zhang, 2002, p 2090)

The interest for global expansion is increasing rapidly among Chinese companies (Figure 1), according to China’s Ministry of Commerce (2003; 2004). Up to the end of 2004, China’s outward foreign direct investment (FDI) stock reached US$ 37 billion (von Zedtwitz, 2005b). Chinese companies have invested in more than 160 countries around the world, and there are over 700 Chinese companies in Germany, 250 in France and U.K. In a recent survey, 90% of the 50 leading PRC firms claimed that they have already expanded or plan to expand abroad (von Keller & Zhou, 2004). The internationalization trend of Chinese companies is also
visible in Sweden. By the end of 2003, there are 16 Chinese firms that have invested and set up operations here (Runnbeck, 2005); two of them are telecommunications equipment suppliers Huawei and ZTE. Huawei established an R&D center in Sweden five years ago while ZTE established its Nordic office at the beginning of this year. Both companies are located in Kista – the telecom cluster in Europe – in northwest Stockholm.

![Figure 1: Compiled figure of outward foreign direct investment from China, 2002-2004](image)

*Figure 1: Compiled figure of outward foreign direct investment from China, 2002-2004

(Ministry of Commerce of the People’s Republic of China, 2003, 2004)*

1.2 PROBLEMATIZATION

*Internationalization* and *globalization* are two terms that are often used interchangeably, although they carry different meanings. Being international simply implies that a business is operating in more than one country (Stonehouse, et al., 2000), while the term global assumes an underlying global market and indicates the potentially global scope of all of an organization’s business operations and its ability to compete on a global scale (Yip, 1992).

There are now about 64,000 transnational corporations (TNC) engaged in international production, with 866,000 affiliates located abroad. The number of employees in foreign affiliates worldwide has increased dramatically, reaching 53 million in 2002 from 19 million two decades ago (UNCTAD, 2004, p 44). The origins of these transnational corporations and locations of their foreign affiliates are not equally dispersed around the world. Developed countries, specifically the European Union, host the largest number of TNCs. Developing
economies are home to less than one quarter of TNCs, while they host more than half of the foreign affiliates worldwide (ibid).

Ranked by foreign assets, there are only four companies based in developing economies among the top 100 non-financial transnational corporations. All of the remaining 96 TNCs originate from North America, Western Europe and Japan (UNCTAD, 2005, p 264-266).

The current global landscape of transnational corporations is reflected by the depth and breadth of academic research in the fields of globalization and transnational strategies. Scholars specialized in globalization focused their research on globalization of markets and internationalization of firms within developed countries in the 80’s and 90’s (e.g. Levitt, 1983). This is termed Type 1 research as stated in the matrix (Figure 2). Type 2 research surfaced during the last decade when the ideological and economic divisions in the world gradually faded away. Rapid technological progress and the fostering of an ever-more interconnected world economy have extended research on globalization to include developing markets and countries as well. A number of research topics (e.g. outsourcing) has emerged and flourished within the main theme of Type 2 research, which focuses on companies based in developed economies penetrating developing countries in terms of sales and production.

Only recently, has Type 3 and 4 research been somewhat explored, due simply to the fact that the impact of transnational corporations based in developing economies has so far been limited on the world stage. One report claimed, “The ‘China boom’ story has been missing the
Chinese multinationals” (Ernsberger Jr, 2001). In fact, globalization research has been missing the Chinese multinationals as well! The research available today on Chinese multinational companies is limited to investment entry strategies (e.g. Ma, 2003), state-owned enterprises (Nolan & Zhang, 2002), macroeconomic and policy factors (e.g. Prasad, 2004; Overholt, 2005 and Zhang, 2005), R&D operations (von Zedtwitz, 2005a), or outward foreign direct investment patterns (e.g. Cai, 1999 and Wu & Chen, 2001). A recent study classified global strategy research into four types; (1) firms from developed economies entering emerging economies, (2) domestic firms competing with emerging economies, (3) firms from emerging economies entering other emerging economies, and (4) firms from emerging economies entering developed economies (Wright, et al., 2005). The four researchers behind that study concluded that more focus on the third and fourth type of strategy research is needed.

Mike Peng (2005), a renowned scholar specializing in China-related research, believes that it is time to push “China research to the center stage of global strategy research”. There are currently few studies conducted on the globalization strategies of large private Chinese corporations with ambitions of worldwide expansion and global competitiveness. This thesis aims to focus on globalization strategies of enterprises based in China, in order to fill the void of academic studies of enterprises based in developing countries in general, and in China in particular.

1.3 PURPOSE

The Chinese telecom equipment suppliers Huawei and ZTE’s establishment of operations in Sweden and other parts of the world may not simply be mere internationalization of their business and markets, but rather acts as part of their corporate globalization process in order to achieve global competitiveness. It is clearly indicated in the annual reports of both companies that globalization of sales and operations is fundamental to their continuing strategies and future growth (Huawei Technologies, 2005; ZTE Corporation, 2005a).

The purpose of this study is to extend the amount of knowledge and level of insight in the globalization process of large Chinese enterprises. By gaining a deeper understanding of these firms’ global strategies and uncovering specific characteristics, the results of this thesis may provide practical relevance and implications for these Chinese firms’ global competitors and
partners, as well as for government policy-makers around the world. Academically, a study of Chinese companies with global aspirations can facilitate further research to counter the current insufficiency of research concerning enterprises based in developing economies.

1.4 RESEARCH QUESTION
The purpose of this thesis is to capture the globalization trend among Chinese enterprises, by specifically focusing on the largest two China-based telecom equipment suppliers Huawei and ZTE. Both companies are pioneers in terms of globalizing their research and sales operations, due to the perceived international characteristics of the entire telecom equipment market. Prior to analyzing the globalization strategies of these Chinese companies, the underlying worldwide telecom equipment market must be tested against the hypothesis that it is truly globalized – since a relatively global market is a prerequisite for the existence and implementation of corporate global strategies.

Derived from the purpose above, there are two main questions that need to be addressed within the framework of this thesis; (1) To what extent and degree can the worldwide telecom equipment market and industry be characterized as a truly global one? (2) What are the corporate globalization strategies pursued by the two Chinese telecom equipment suppliers Huawei and ZTE?

1.5 PERSPECTIVE
The perspective of the study will be a corporate one. The definition of a market being truly global or not will be focused from a corporate point of view, rather than consumer-oriented. The globalization strategies are also discussed on a corporate level and driven by firm-specific needs and strategic ambitions.

1.6 RESEARCH DESIGN
In order to obtain a clear and accurate insight into the globalization strategies of the Chinese telecommunications manufacturers as well as of the overall worldwide telecom equipment market, analysis based on a combination of quantitative and qualitative data will be conducted.
Quantitative data will mainly be applied to categorize and investigate the degree of globalization of the telecom equipment market/industry. Secondary quantitative data will be used to provide basic information and supporting details of the two Chinese companies’ global operations. Qualitative data will principally stem from interviews with senior level managers at both companies in their China and Sweden headquarters. The interview data is then used to gain deeper understanding of the specific globalization strategies planned and implemented by the Chinese telecommunications manufacturers.

1.7 DEFINITION

*International business*: Any commercial transaction that crosses the borders of two or more nations (Wild, et al., 2006).

*Global market*: A market in which consumers have the same needs and preferences worldwide (Levitt, 1983).

*Global company*: The term refers to the potentially global scope of all of an organization’s business operations and its ability to compete on a global scale (Yip, 1992).

*Transnational strategy*: The configuration, co-ordination and control of global business activities across national boundaries in the pursuit of global competitiveness (Bartlett & Ghoshal, 1998).

*Telecommunications*: Communications at a distance, as by telephone (Britannica Online, 2005).

*Telecommunications equipment*: Equipment, other than customer premises equipment, used by a carrier to provide telecommunications services, and including software components and upgrades (MNTA, 2005).
1.8 DELIMITATION

The study will focus on the telecom equipment industry, specifically on two Chinese companies; Huawei, which is China’s largest telecom equipment supplier and ZTE, the largest listed telecommunications manufacturer in China.

Geographically, the content will center on the People’s Republic of China and Sweden, due partly to the author’s level of access in these two countries, and partly to the fact that both companies are headquartered in China with established R&D centers and sales offices in Sweden.

1.9 THESIS STRUCTURE

Chapter 1 gives an overview of the theme studied. The purpose, research questions, delimitations and perspective are also described.

Chapter 2 discusses various scientific and methodological approaches, as well as a brief account of alternative research designs. The guiding research framework and chosen methodology are then portrayed in detail. A critical review of the implemented methodology is attached as well.

Chapter 3 presents the relevant theories, concepts and models used in analyzing global corporate strategies and underlying markets. Previous research closely related to the theme of this paper is also included.

Chapter 4 gives a detailed report of the empirical results in three separate parts; (1) the degree of globalization of the worldwide telecom equipment market, (2) Huawei’s globalization story and (3) ZTE’s globalization story.

Chapter 5 provides an analysis of the extent and degree of globalization of the worldwide telecommunications equipment market. Huawei’s and ZTE’s corporate global strategies are then examined, focusing on similarities and characteristics specific to these two Chinese firms. An overview of their corporate global strategies is provided as well.

Chapter 6 contains the major findings and conclusions of the study.
Chapter 7 includes a general discussion of the future outlook for Huawei and ZTE’s global expansion, as well as of the transforming landscape of the entire telecom equipment industry.

Appendix 1 focuses on Invest in Sweden Agency (ISA), a government body responsible for attracting foreign direct investment to Sweden. The case of ISA is aimed to demonstrate the applicability of the analysis and results in this thesis, in terms of how the agency can shape its activities with the knowledge and insights derived from the study of two Chinese telecom equipment companies’ globalization process.

Appendix 2 details the interview with Jeff Ji, ZTE’s Sales Director for the Nordic region. The transcripts of interviews with Huawei’s senior managers are not published upon request.
2 METHODOLOGY

This chapter describes the guiding framework and the scientific/methodological approaches. Relevant alternative research designs are presented and discussed, in conjunction with the motivation for each chosen research strategy. Lastly, the weaknesses of the research design are addressed in a critical review.

2.1 SCIENTIFIC APPROACH

The scientific approach of the study will be presented on two levels; firstly the choice of scientific perspective, and secondly the choice of methodology.

2.1.1 Scientific perspective

The choice of scientific perspective is related to the question of how scientific knowledge is generated and how scientific investigations are conducted. There are mainly two scientific perspectives acting as guiding frameworks for how knowledge should be produced; the positivistic and hermeneutic perspective (Hartman, 1998, p 94-96).

The focus of the thesis is the global strategies implemented by two of the largest Chinese telecommunications equipment vendors. Pieces to this complex puzzle include verbal accounts by senior managers within the companies, observations by industry experts and academics, and numerous reports and articles from various sources. The hermeneutic perspective is thus chosen to reflect and capture the complexity of the issues, since this scientific perspective focuses on interpretation and understanding of phenomena (Gilje & Grimen, 2004, p 175-177).

2.1.2 Methodological perspective

The methodological perspective can be seen as a link between the scientific perspective and the practically applied research design (Hartman, 1998, p 173). There are two main approaches within methodological theory; the qualitative and quantitative approach. The quantitative approach is the search for numerical relationships and statistical analysis, whereas the most prominent features of the qualitative approach is the path to understanding via interpretation and verbal analysis (Hartman, 1998, p 173-177). In this study, a qualitative approach has been adopted.
The research design of focusing on the two largest telecom equipment companies in China is intrinsically similar to a case study design, which in itself encompasses a qualitative approach. The purpose and objective of the study is exploratory in nature, with little numerical data and/or statistics available for a scientifically and practically viable quantitative study, simply because we are still at the early stages of the globalization trend among Chinese enterprises. The principal sources of information concerning these two companies’ global strategies are the interviewed senior managers, making the selection of a qualitative approach even more obvious.

Another important categorization of methodological approaches is the distinction between induction and deduction. Induction is based on empirical findings and seeks to generalize findings of the studied phenomena to laws and theories. Today the inductive methodology is mostly used in exploratory studies while its importance has diminished for other types of investigations (Hartman, 1998, p 128-129). Deduction on the other hand is an approach where theories and hypotheses are tested against reality and then verified or falsified. Both of these approaches are utilized in this study; the hypothesis of a highly globalized underlying telecom equipment market is firstly tested against historical industry data and market realities, the collected empirical data on Chinese companies’ corporate global strategies is then analyzed to provide foundations for generalizations.

2.2 ALTERNATIVE RESEARCH DESIGNS

The type of research questions posed is instrumental when choosing research strategies. Depending on which type of question (how, why, what, how many, etc.) is being asked, there will be more or less suitable research strategies and designs (Yin, 1984, p 6-8). Yin (ibid, p 7) highlighted that the nature of the question could also prompt for different strategies; “what” questions may either be exploratory (in which case many different strategies could be used) or about prevalence (in which case archival analysis and surveys are favored strategies). The two “what” research questions posed in this study are of different natures: “to what extent is the worldwide telecom equipment market and industry globalized” is obviously a question about prevalence, in which case the strategy of archival analysis is most preferable; “what are the globalization strategies of large Chinese telecom equipment manufacturers” is an exploratory question to a large extent, enabling a selection of a wide range of strategies – the author of the
present study has chosen a case study approach focusing on Huawei and ZTE, the largest two Chinese telecom equipment vendors.

The distinction between explanatory, descriptive and exploratory studies is also an important factor affecting research strategy decisions. An explanatory study seeks to explain a causal relationship and is used when a phenomenon is well researched; a descriptive study is often used when there is some prior knowledge and the objective is to research existence, prevalence and size while an exploratory study seeks to generate knowledge in an area where there previously has been only very little (Rosengren & Arvidson, 1992, p 89-117).

In this study, both the descriptive and exploratory approaches are applied in order to fulfill the research purpose. There is little research conducted on the global strategies of enterprises based in developing countries, let alone Chinese companies. The nature and focus of this study will consequently be exploratory. But according to Yin (1984, p 22), even for exploratory studies, there should always underlie some rationale and direction at the onset. Thus the initial investigation of the global telecommunications equipment market is essential in providing the basic rationale and direction for the study of Chinese telecom companies’ globalization strategies. This part will be conducted in a descriptive fashion, using historical statistics and recent industry data to verify the extent and degree of industry globalization.

Interviews with company insiders will naturally become a key component of the research design. There are three types of interviews; open-ended, focused and survey. In an open-ended interview, respondents are asked for facts as well as their opinions about events. Sometimes, an interviewee’s role can shift between being a respondent and informant. Focused interview is a type of interview that lasts for approximately one hour. The interview questions are open-ended and conducted in a conversational manner, although it is likely that the interviewer is following a certain set of questions derived from a research protocol. A survey interview entails more structured questions, often involving instruments and sampling procedures used in regular surveys (ibid, p 84-85). In this study, focused interviews are employed since they are not as time consuming as totally open-ended interviews; but this type of interviews still retain a conversational style with open-ended questions, which enables a smooth extraction of large amount of information from respondents. A successful approach would be good initial contacts with potential respondents in which the author can grasp their level of insight and their roles/responsibilities within the researched companies. This knowledge would then
provide an outline for the creation of a semi-structured questions protocol to be used at the actual interview occasion.

Regardless of which type, interviews should always be considered to be verbal reports and “subject to the common problems of bias, poor recall, and poor or inaccurate articulation”. According to Yin (1984, p 85), “a reasonable approach should include information from other sources to corroborate interview data”. Therefore, it is of utter importance that the interviews with senior managers and industry experts are accompanied by information derived from corporate reports, statistics and articles within the framework of this study.

2.3 CHOSEN RESEARCH DESIGN

Inspiration to the layout of the thesis has been derived from the book Global and Transnational Business (Stonehouse, et al., 2000), which includes a comprehensive and up-to-date overview of global and transnational business. The purpose of the thesis is fulfilled through a two-stage process; (1) the extent and degree of the global telecommunications equipment market is examined, since a globalized underlying market is a precursor to the creation and existence of truly global companies within that industry, (2) the globalization strategies of the two largest Chinese telecom equipment vendors are probed to further provide insight and knowledge.

Vast amounts of data and statistics need to be sipped through in order to fully apprehend a complex global industry such as the telecommunications equipment sector; the author have examined various globalization drivers in the four major categories (market, cost, government, competitive) laid out by Stonehouse, Hamill, Campbell and Purdie (2000), which determines the extent of globalization of an industry. Statistics and relevant industry data are mainly collected from reports and compilations produced by government agencies, academic institutions and consulting firms (i.e. OECD, Standard & Poor’s, as well as various firms specializing in the telecom industry).

The assessment of the globalization process and strategies undertaken by the Chinese telecom equipment providers consists of a combination of focused interviews and secondary data. To conduct interviews with Chinese companies requires a large amount of time and effort due to the notoriously secretive and risk aversive nature of Chinese employees. Several scholars
recognized the difficulties in conducting qualitative and quantitative research with Chinese companies. Chen (2003) attempted to study international innovation by Chinese companies through a quantitative study; he received only 28 valid questionnaires out of 279 sent out. Max von Zedtwitz (2005a, p 4) denoted “a high disinclination to cooperate in academic research” while conducting interviews with Chinese business leaders. A survey-based quantitative research design that covers all major Chinese telecom equipment companies seems improbable under the current circumstances.

The author aims to focus on the two largest Chinese telecommunications equipment companies Huawei and ZTE in a case-study fashion. Both firms are relatively internationalized compared to other telecom equipment actors based in China; they have also initiated the globalization process in a large scale, with international sales counting for a considerable portion of the total sales revenue. Further, Huawei and ZTE have succeeded in penetrating developing and developed markets in terms of both sales and operations. Focused research exclusively on these two companies provides more time and resources for in-depth interviews with company representatives and data collection.

Through a series of personal interviews with senior level managers at Huawei and ZTE, the author seeks to obtain a deeper understanding of the global strategies of Huawei and ZTE. In order to increase reliability, initial contacts with potential interviewees were made to provide insight in their current role and responsibilities within their respective company. The following two target criteria were then set for the selected managers to interview; (1) they must possess international experience in developed markets on behalf of the two Chinese telecom equipment companies, (2) they must have worked at the companies for more than two years to ensure their level of knowledge and understanding of the corporate culture and the rapid internationalization process of the Chinese companies. Finally, the questions protocols were adapted to each individual respondent, taking into consideration their specialization and experiences within the Chinese telecom equipment vendors. After the interviews, the compiled interview data was sent back to each respondent and feedback was requested to correct erroneous interpretations, in order to guarantee a higher level of validity of the data. Complete anonymity was granted whenever requested, in order to facilitate an open and genuine exchange of information, even for those managers who might feel constrained by internal corporate policies.
Due to the aforementioned difficulties in establishing contact and interviewing Chinese business leaders, relying entirely on interview materials is not sufficient to attain a broad understanding of the globalization strategies of the two Chinese telecom companies. Relevant information from secondary sources is coupled with the interview material to provide a more comprehensive picture. Most of the secondary data stems from the corporate annual reports released by the companies, as well as articles in *Financial Times* and *Business Week* featuring analysis of the two Chinese companies.

Lastly, the empirical results provide a sound foundation to discuss the practical implications for investment promotion agencies in developed countries who are interested in attracting outward Chinese FDI. Based on the empirical results and conclusions derived in the thesis, a case study is conducted on the current operations and strategies of Invest in Sweden Agency (ISA), commenting on its effectiveness and readiness to cope with the demands and realities of globally expanding Chinese companies. The case study is meant to serve as an example of the practical relevance and applicability of knowledge and insight in Chinese companies’ global strategies and ambitions.

A flow chart of the research process and structure is provided in Figure 3.
2.4 CRITICAL REVIEW

The subjectivity of the entire study could be questioned since the author, prior to the writing of the thesis, received promise of financial support from Invest in Sweden Agency (ISA), which is a government body under the Swedish Foreign Ministry. The agency was interested in the outcome of this study, in terms of how the results can improve ISA’s investment promotional activities in China. The financial assistance is a double-edged sword; it can enhance the author’s possibility of conducting on-site interviews and observation, at the same time the intention and subjectivity of the entire study design could be questioned. In this case, the objectivity of the study design and analysis has been ensured since the author did not receive any pre-determined requirements or demands concerning research design, interview content or analysis criteria from ISA. In fact, a promise of financial support from the onset removed any dependent relations between the author and the agency during the course of the study.

The reliability of the interview data should also be discussed, due to the small number of respondents from within the studied companies. The author has been able to interview three senior managers at Huawei and ZTE after much effort and stubbornness; the amount of data derived from these interviews are far from enough to generalize about the global strategies of all Chinese telecom equipment vendors, even less so about all Chinese companies with global ambitions. This is not the intention of the study, since the research design is to a large extent exploratory. All previous studies related to Chinese companies’ global strategies have somehow carried associations to political factors, macroeconomic transformations or foreign direct investment aspects. This thesis aims to provide fresh insights into the globalization process and global strategies of Huawei and ZTE that are solely based on corporate and strategic perspectives. Interviews with managers, industry experts and academics are to garner their view on the issues being studied and the questions being posed. The interview data is then supported by a wealth of secondary sources, due to the common unreliability of interview data.

Finally, there may be some concern for the senior managers at Huawei, who agreed to be interviewed after being introduced through the author’s personal connections (friends and relatives). The importance of this issue is debatable – without the introductions, the interviews would not have taken place at all, while the reliability of the respondents’ answers may come into question. In this case, the independence of these respondents’ comments is principally
guaranteed since the author is not personally related to either one of them, or had established any contact with them prior to this study. Thus, one could stipulate that no direct dynamics could sever the objectivity and reliability of the interview data.
3 THEORY

This chapter presents previous research conducted in areas closely related to the theme of the thesis. It contains studies on the internationalization process of Chinese companies’ R&D operations and the challenges of globalization for large Chinese state-owned enterprises. A Master’s thesis investigating Chinese companies’ willingness to invest in Sweden is also included to provide a theoretical foundation for the Invest in Sweden Agency case study.

The theories, concepts and models most relevant to fulfill the research purpose are listed and described under Theories. Among them are the globalization drivers of an industry that are commonly employed to determine the degree of globalization of an industry/market, as well as different types of global and transnational strategies, which will provide a theoretical framework for analyzing the corporate strategies pursued by the large Chinese telecommunications equipment companies.

3.1 PREVIOUS RESEARCH

3.1.1 Internationalization of Chinese companies’ R&D operations

In a research paper, von Zedtwitz (2005a) examined the internationalization process of R&D operations from developing countries, focusing specifically on China. The author identified four types of R&D internationalization research (Figure 4), where the area of this particular study is the most novel and least explored. Until recently, most of previous research conducted in the internationalization process has focused on developed and advanced countries (Type 1). Due to the rapid pace of technological advancement and globalization trends, research about internationalization of R&D activities from developed countries to developing countries has also emerged and matured (Type 2). There is though a lack of research on internationalization of companies from developing countries, towards either developed countries or other developing countries (Type 3 and 4).

![Figure 4: Research directions in internationalization process of global R&D operation (von Zedtwitz, 2005a, p 3)](image)
Eleven technology-intensive Chinese firms were included in the sample - they operated a total of 77 R&D units, of which 37 are situated outside China. Interestingly, 26 of the international R&D units are located in advanced countries such as Europe (11) and the U.S. (11).

von Zedtwitz found out that the Chinese companies' R&D activities in developed countries are induced by input-related rationales such as access to advanced technology and main foreign competitors' technical advantage. R&D establishments in developed countries are more output-related in order to achieve high customer sensitivity and smooth localization of products. An internationalization of R&D could also occur as a consequence of cross-border mergers and acquisitions. For example, when TCL purchased Germany's Schneider or when Lenovo bought IBM's PC-business, the R&D units of the purchased companies naturally become part of the Chinese firms' global R&D network.

The author concluded by proposing a model of two superimposed R&D networks, among globally expanding Chinese companies:

1) **Innovation capability enhancing**: develop the R&D network's capabilities to understand and conduct cutting-edge technology development by absorbing know-how from advanced countries;

2) **Innovation capability exploiting**: pass on technologies and technical know-how which has been absorbed earlier and refined/adapted for use in developing countries.

### 3.1.2 Challenges of Globalization for large Chinese enterprises

Nolan and Zhang (2002) studied the competitiveness of Chinese enterprises globally, after the country's entry to the WTO. The companies included in the study were large state-owned enterprises in the aerospace, oil and petrochemical industries. The authors keenly pointed out the current unleveled global playing field, where the concentration of business power mainly resides in the U.S., Europe and Japan. At the same time, they acknowledged the successful restructuring and privatization efforts by the Chinese government to transform these state-owned enterprises into efficient and globally competitive companies.

Globalization is attributed with creating and shaping the world's competitive terrain, in which companies in developing countries are having more difficulties to achieving global competitiveness. In all three industries covered in the study, huge mega-corporations from developed countries have solidified their lead positions in the era of globalization; they have
acquired key strategic assets, a huge amount of money is being poured into R&D spending to prolong their competitive advantage, etc. Even so, China, with a huge domestic market and relatively powerful and efficient state, is judged as one of the most promising developing countries that have the greatest possibility of supporting and creating globally powerful corporations. In conclusion, the authors urge the Chinese government to adjust its industrial policies to further strengthen the competitive ability of these large enterprises in key strategic industries, where purely depending on remedies such as privatization and liberalization is not sufficient.

3.1.3 Chinese companies’ investment potential in Sweden

Ma (2003) seized the initial stage of Chinese firms' internationalization process by studying their willingness to invest in Sweden. Company representatives of 5 Chinese companies (two of them had already set up operations in Sweden, the rest had varying degrees of foreign expansion ambitions) were interviewed, as well as several government and embassy officials. The issues discussed ranged from Sweden's macroeconomic factors (e.g. taxation system, market size) to the nation's R&D capabilities and the Chinese business culture.

Derived from the interview material, Ma delivered the following four general conclusions:

1) With increased management autonomy and ownership control, more Chinese companies start to engage in internationalization processes. In fact, the author noted a shift from government policy-induced motives to a more strategic-focused approach based on firm-specific needs.

2) The author admittedly pointed out that despite the aforementioned trend, the Chinese government still holds importance in the internationalization process of Chinese firms, especially in the aspects of investment and procedural approval.

3) Chinese information and communication technology (ICT) companies choose their target market by taking into consideration both industry-specific and country macro-economic factors. When choosing entry mode, Chinese firms prefer investment entry mode which allow the highest degree of control by the parent company.

4) Despite the fact that many Chinese enterprises adopt Western management practices, traditional Chinese cultural factors (e.g. “guanxi”, holistic view, indirect approach) still play a significant role in the decision-making process of overseas investment projects. The cultural differences factor is otherwise downplayed by the participating Chinese companies in the study, which consider the process of integrating themselves
into the international business environment only tangled with anticipated problems, thus making this issue an insignificant one when making investment decisions.

Several issues mentioned by the Chinese firms as troublesome in terms of investing in Sweden included:

- Complicated foreign exchange control and approval procedure by the Chinese government;
- Lack of investment capital;
- Lack of qualified personnel;
- Difficulty in establishing business network and obtaining guidance in Sweden;
- Difficulty in integrating into the Swedish business culture.

3.2 THEORIES

3.2.1 Globalization drivers for an industry and market

Yip (1992) provides the most widely used framework for assessing the extent of, and potential for, industry and market globalization. His research suggests that there are four categories of drivers (market, cost, government and competitive), which must be analyzed in order to determine the degree of globalization within an industry. It should be noted the importance of not to regard any industry or market as being either entirely global or local. In the case of a specific industry, certain drivers may be strongly indicative of globalization and the others more suggestive of localization (Stonehouse, et al., 2000, p 77).

An overview of the various components of the four categories of globalization drivers is provided in Table 1. By analyzing each of the components affecting a specific industry and market, the drivers offer a sound basis for determining the extent and degree of globalization within that particular segment.

<table>
<thead>
<tr>
<th>Driver</th>
<th>Pressure for globalization</th>
<th>Pressure for localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market</td>
<td>Customers</td>
<td>Global customers</td>
</tr>
<tr>
<td></td>
<td>Channels</td>
<td>Global channels</td>
</tr>
<tr>
<td>Marketing</td>
<td>Transferable marketing</td>
<td>Differentiated marketing</td>
</tr>
</tbody>
</table>

Table 1: The globalization drivers (Stonehouse, et al., 2000, p 79)
<table>
<thead>
<tr>
<th><strong>Countries</strong></th>
<th>Lead countries</th>
<th>No obvious lead countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Economies of scale</em></td>
<td>High fixed costs</td>
<td>Low fixed costs</td>
</tr>
<tr>
<td><em>Experience curve</em></td>
<td>Steep learning curve</td>
<td>Shallow learning curve</td>
</tr>
<tr>
<td><em>Sourcing</em></td>
<td>Centralized purchasing</td>
<td>Decentralized purchasing</td>
</tr>
<tr>
<td><em>Logistics</em></td>
<td>Low transport costs, no need to locate near customers</td>
<td>High transport costs, need to locate near customers</td>
</tr>
<tr>
<td><strong>Country costs</strong></td>
<td>Differences in costs</td>
<td>Similarities in costs</td>
</tr>
<tr>
<td><strong>R&amp;D cost</strong></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Technological change</strong></td>
<td>Rapid</td>
<td>Slow</td>
</tr>
<tr>
<td><strong>Government</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Trade policies</em></td>
<td>Low trade barriers</td>
<td>High trade barriers</td>
</tr>
<tr>
<td><em>Technical standards</em></td>
<td>Compatible</td>
<td>Incompatible</td>
</tr>
<tr>
<td><em>Marketing regulations</em></td>
<td>Common</td>
<td>Different</td>
</tr>
<tr>
<td><em>Government ownership</em></td>
<td>Government-owned</td>
<td>Government-owned</td>
</tr>
<tr>
<td><em>Host government concerns</em></td>
<td>Policies which favor global businesses</td>
<td>Policies which hinder global businesses</td>
</tr>
<tr>
<td><strong>Competitive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Volume of exports</em></td>
<td>High exports &amp; imports</td>
<td>Low exports &amp; imports</td>
</tr>
<tr>
<td><em>Competitors</em></td>
<td>Competitors from different continents</td>
<td>Local competitors</td>
</tr>
<tr>
<td><em>Interdependence of countries</em></td>
<td>Countries largely interdependent</td>
<td>Countries largely independent</td>
</tr>
</tbody>
</table>

### 3.2.2 Global and transnational strategies

There are four types of broad transnational strategies commonly employed by companies globally; (1) Porter’s global generic strategy, (2) Global strategies focusing on integration and responsiveness, (3) Total global strategy and (4) Transnational strategies.

**(1) Porter’s global generic strategy**

Porter (1986a) proposed a model of international global strategy based upon his generic strategy framework. He argued that the different generic strategies (cost leadership, differentiation) could be applied on a global scale, resulting in *global cost leadership* or *global differentiation.*
Porter (1986a, p 23-25; 1986b) also introduced the terms *configuration* and *co-ordination* within the framework of international business strategies. Configuration refers to how a business configures its upstream, downstream and internal value-adding activities globally. Co-ordination involves sharing information, allocating responsibility, and aligning efforts within a company’s international operations.

(2) *Global strategies focusing on integration and responsiveness*

Prahalad and Doz (1987) reached similar conclusions to Porter in their research on global management. They argued that corporate success at an international level is dependent upon the ability of the business to co-ordinate and integrate global activities whilst, at the same time, retaining responsiveness to the demands and changing circumstances of local national markets. The *International Management Strategy Matrix* (presented in section 3.2.3), a tool intended for analyzing global strategies of a business, incorporates these ideas.

(3) *Total global strategy*

Levitt (1983) proposed that globalization implied that the strategic focus ought to be standardization of products and marketing worldwide. In reality, globalization is far more complex than this and requires flexible and responsive strategies, rather than rigidly standardized ones (Stonehouse, et al., 2000, p 7 & 143). Yip (1992), one of the main advocates of *total global strategy*, divides it into three separate components or stages:

1. Developing the core strategy: this is the basis of the organization’s global competitive advantage;
2. Internationalizing the core strategy: the international expansion of activities and the adaptation of the core strategy;
3. Globalizing the international strategy: integrating the strategy across countries.

The extent of truly global corporate strategies will depend upon the relative strength of the globalization drivers for that specific industry (Stonehouse, et al., 2000, p 144-145).

(4) *Transnational strategies*

Transnational strategies are a further dimension of global management; although they are global in nature, they allow international companies to retain local responsiveness through a high degree of co-ordination and a global configuration. Two proponents of transnational
strategies, Bartlett and Ghoshal (1987, 1988, 1998), found out that many managers oversimplified and dichotomized global strategic decisions to:

- *Global* strategy vs. *Local* responsiveness;
- *Centralized* vs. *Decentralized* key resources;
- *Strong central control* vs. *subsidiary autonomy*.

The transnational business strategy shall carry multiple strategic capabilities to adapt to both global and local needs. The following features should be incorporated into the transnational business strategy:

- *Strong geographical management* to allow responsiveness to local markets based on sensitivity to local needs and environments (Bartlett & Ghoshal, 1998, p 321-329);
- *Strong business management* based on global product responsibilities in order to achieve global efficiency and integration through product standardization, manufacturing rationalization and low-cost global sourcing (ibid, p 233-238);
- *Strong worldwide functional management* to develop and transfer the company’s core competencies via organizational learning (ibid, p 242-246).

### 3.2.3 International Management Strategy Matrix

One of the major strategic tools used by multinational enterprises in their international efforts is an integration/responsiveness framework that helps the corporate decision-makers address the benefits of economic integration with those of national responsiveness (Bartlett & Ghoshal, 1998). Rugman and Hodgetts (2001) have adapted this tool to create the *International Management Strategy Matrix* (Figure 5). The matrix provides an easy-to-understand platform that can be used to illustrate the overall corporate strategy of a company with global aspirations.

The vertical axis of the matrix represents the benefits of *economic integration* based on economies of scale. Some characteristics of companies that employ high economic integration include centralized, closely integrated and internally coordinated operations, product line managers with a high degree of authority, and a strong headquarters office (ibid).
The horizontal *national responsiveness* axis represents the ability of companies to adapt its products and services to local cultures and tastes as well as investing to understand local political regulations and public policies. Characteristics of companies with high national responsiveness include strong local autonomy with decentralization of operations and the ability of country managers to rapidly respond to local market conditions (ibid).

Quadrant 1 in the *International Management Strategy Matrix* is closely linked to the central theme of the thesis since it depicts a global world and global corporate strategies. Companies in this quadrant are driven by economic drivers and can succeed in an idealized world of free trade, political interdependence and cultural homogeneity (ibid). Giddens (1998), Friedman (1999) and Gray (1998) would call it the quadrant of ‘convergence’ of economic, political and cultural aspects of globalization. Companies in this quadrant include IKEA, Nokia and Ericsson. Quadrant 4 is a pure national responsiveness-strategy, implemented by companies like Unilever, in which they carefully adapt their approaches to local market conditions. Quadrant 3 offers a balance of integration and national responsiveness strategies and is employed by companies like Procter & Gamble, which have found out that strong attention to both economies of scale and local customs, tastes and cultures are critical to success. Quadrant 2 is an unsatisfactory set of strategies that offer few or no benefits for multinational companies (Rugman & Hodgetts, 2001).
4 Empirical research

In this chapter, the empirical results aimed at fulfilling the research purpose will be presented. Firstly, an overview and assessment of the global telecommunications equipment market/industry based on secondary industry reports and data is provided. Equipped with information derived from hour-long interviews with a number of company managers and experts as well as numerous relevant secondary sources, the global strategies and globalization stories of Huawei and ZTE are then put forward.

4.1 TELECOMMUNICATIONS EQUIPMENT INDUSTRY AND MARKET

The global telecommunications equipment market is a multi-billion dollar industry, which has enjoyed a steady growth for more than 15 years (Figure 6). The increase has been accompanied by an equally consistent expansion in the telecommunications services sector. This market growth is mainly driven by “newly unleashed demand, technological advances, declining prices and privatization/liberalization movements” (U.S. Commerce Department, 1997).

Figure 6: Global telecom market revenue 1991-2003, as divided in Equipment and Services.

The figure for 2002 is estimated, 2003’s figure was a forecast at the time.

(International Telecommunications Union, 2001a)
4.1.1 Market

The customers of the large international telecom equipment vendors are the major telecom operators and service providers around the world (Figure 7). This fact is pointed out in several of the major telecom equipment vendors’ annual reports; “we derive most of our business from large, multi-year network build-out agreements with a limited number of significant customers” (Ericsson Annual Report 2004, 2005a, p 109); Nortel states that “the top 20 global wireless service providers collectively account for a majority of all wireless subscribers around the world” (Nortel Annual Report 2004, p 8).

![Figure 7: Largest mobile operators in the world, ranked by number of subscribers (International Telecommunications Union, 2005)](image)

“Telecommunications is perhaps the most international of all industries”, claimed by columnist Larry Lannon (1992) in *Telephony*, an industry magazine. The international character of the global telecom industry is most evident in sales/revenues and customer base of the equipment vendors; Nokia is operating in more than 130 countries and 95% of all of the company’s revenues are generated outside of Finland’s borders, Ericsson is equally international with only 6% of total revenues earned in its home country of Sweden, the Canadian telecom giant Nortel has 92% of its sales outside Canada and 40% of all sales outside of North America (Rugman & Hodgetts, 2001).
In 1999, the International Telecommunication Union (ITU) listed the top 10 telecom equipment vendors in terms of total revenues (Table 2). The ten companies were most commonly headquartered in the United States and Western Europe.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Headquarters</th>
<th>Telecom equipment revenue (in US$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lucent</td>
<td>USA</td>
<td>26.8</td>
</tr>
<tr>
<td>2</td>
<td>Ericsson</td>
<td>Sweden</td>
<td>21.5</td>
</tr>
<tr>
<td>3</td>
<td>Alcatel</td>
<td>France</td>
<td>20.9</td>
</tr>
<tr>
<td>4</td>
<td>Motorola</td>
<td>USA</td>
<td>20.5</td>
</tr>
<tr>
<td>5</td>
<td>Nortel</td>
<td>Canada</td>
<td>17.3</td>
</tr>
<tr>
<td>6</td>
<td>Siemens</td>
<td>Germany</td>
<td>16.8</td>
</tr>
<tr>
<td>7</td>
<td>Nokia</td>
<td>Finland</td>
<td>14.7</td>
</tr>
<tr>
<td>8</td>
<td>NEC</td>
<td>Japan</td>
<td>12.6</td>
</tr>
<tr>
<td>9</td>
<td>Cisco</td>
<td>USA</td>
<td>8.4</td>
</tr>
<tr>
<td>10</td>
<td>Hughes</td>
<td>USA</td>
<td>5.7</td>
</tr>
</tbody>
</table>

A recent ranking by Yahoo! Finance (2005) has not witnessed much change in the top. The American telecom vendor Qualcomm has entered the list while Hughes has disappeared. A slight reordering of the top positions manifests the extraordinary growth for mobile and wireless communication vendors.

4.1.2 Cost

The telecom sector is a technology intensive industry, which is constantly undergoing technological transformation and change. In fact, the technological progress is accelerating, according to Ericsson’s CEO Carl-Henric Svanberg, who claims that the rollout of the third generation (3G) of mobile networks is considerably more rapid than the rollout of the second generation (GSM) mobile networks in the beginning of the 1990’s (Augustsson, 2005). Robert Gibson (2001, p 11), a researcher and consultant in the telecommunications sector, believes that the “acceptance of new technologies has become pervasive” and the impact of technological advancements in telecommunications on modern life will increase exponentially. This rapid technological change has facilitated telecom equipment vendors to investing a considerable amount (between 10-20%) of their total sales and revenue in research
and development (Table 3). Even telecom equipment vendors based in developing countries are spending more than 10% of the annual revenue in research and development.


<table>
<thead>
<tr>
<th>Company</th>
<th>Net sales / revenue (in US$ millions)</th>
<th>R&amp;D expenditure (in US$ millions)</th>
<th>R&amp;D as percentage of net sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nortel (USA)</td>
<td>9,828</td>
<td>1,959</td>
<td>19.9%</td>
</tr>
<tr>
<td>Ericsson (Sweden)</td>
<td>16,358</td>
<td>2,590</td>
<td>15.8%</td>
</tr>
<tr>
<td>Nokia (Finland)</td>
<td>34,263</td>
<td>4,370</td>
<td>12.8%</td>
</tr>
<tr>
<td>Motorola (USA)</td>
<td>27,058</td>
<td>3,771</td>
<td>13.9%</td>
</tr>
<tr>
<td>Qualcomm (USA)</td>
<td>3,971</td>
<td>523</td>
<td>13.2%</td>
</tr>
<tr>
<td>Huawei (China)</td>
<td>3,827</td>
<td>Not Available</td>
<td>over 10% (^1)</td>
</tr>
<tr>
<td>ZTE (China)</td>
<td>2,498</td>
<td>267</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

4.1.3 Government

“The whole purpose of telecommunications is to facilitate rapid, multiform, distance-insensitive communication from any point to any point. Telecommunications technology and services do not respect borders, nor should they. The only limitations that should apply to international traffic in telecommunications technology and services are economic; all political constraints should be swept aside.”

- Larry Lannon (1992), in an article in industry magazine Telephony

The underlying technical standards enabling telecommunications are relatively uniform all over the world, since most countries rely on technologies and equipment from the largest equipment vendors, due to the enormous research and development costs associated with creating proprietary technology (ibid). There is also a common recognition shared by many national governments that compatible standards and interoperable technologies are needed (OECD, 1991).

Concerning wireless technical standards, there is a slight discrepancy between certain countries; most nations have adopted GSM, the leading and fastest growing mobile

\(^1\) As specified in Huawei’s Annual Report 2004, p 21
technology with over 1 billion subscribers in more than 200 countries (GSM Association, 2005). Japan has developed and implemented its own technical standards, which is not compatible with the GSM system (Rhoads & Hutzler, 2004).

The majority of the largest telecom equipment providers are publicly listed or privately owned companies with no government connections. Among the telecom service providers, there are still many predominantly government-owned carriers, as relics from decades of government control and regulation of the telecommunications market. These state-owned behemoths include some of the largest telecom and mobile operators, such as NTT DoCoMo, China Mobile, Deutsche Telekom and France Télécom (International Telecommunication Union, 2001b).

The international telecom equipment market is one of the most internationalized industries due to few trade barriers and a relatively deregulated world telecom services market. OECD (1991, p 53) reported a significant growth in international telecom equipment trade after the deregulation of telecommunications services markets in the U.S. in 1982 and U.K. in 1984. Many developing countries, such as those in Latin America, have also deregulated their telecommunications markets in recent years – opening doors for new technologies and competition (Rhoads & Hutzler, 2004).

4.1.4 Competitive

According to OECD (1991, p 34-40) statistics, there has been steady growth in both import and export between OECD countries and the rest of the world, with export values consistently outperforming import. This is naturally dependent on the fact that OECD countries are hosting the majority of the largest telecommunications equipment vendors in the world.

In terms of the competitive environment, there persists a relatively high degree of openness in the global market (ibid). This has often facilitated bidding by all major equipment vendors, from North America, Western Europe as well as Asia, for contracts all over the world (Rhoads & Hutzler, 2004). Issues have arisen concerning the competitive environment of the global telecom equipment industry, since the largest vendors are putting them in awkward positions of being both partners and competitors with one another. To set widely adopted industry standards, companies often join forces in private consortiums or under the auspices of international bodies (ibid). Each company holds its own set of patents and technologies,
which they trade for proprietary technologies of other companies when conducting business on a global scale. Rhoads and Hutzler (2004) have dubbed the technology sector “fiercely competitive yet incestuous”.

### 4.2 HUAWEI’S (华为) GLOBALIZATION STORY

#### 4.2.1 Corporate profile

Established in 1988, Huawei Technologies is a private high-tech enterprise which specializes in research and development (R&D), production and marketing of communications equipment, and providing customized network solutions for telecom carriers in different areas. Huawei is the largest telecom equipment company in China and provides telecom products and solutions for over 300 operators worldwide in over 90 countries and regions. Twenty two of the world’s top 50 operators are among Huawei’s customers (Huawei Technologies, 2005).

> “Before, every year, we would have recruitment activities in cities, mainly Shanghai and Beijing. Now we do this in Paris, London, New York, Canada and Australia.”
>
> - Edward Deng, President Europe at Huawei Technologies (Harney, 2005, p 15)

“Unlike Japanese companies, which often dispatched executives from their head offices when they started expanding overseas, Huawei has tried to hire locally” (ibid). Huawei has 24,000 employees; among them are 3,400 foreign nationals. 48% of the staff is engaged in research and development, where the company invests no less than 10% of its total revenue each year (Huawei Technologies, 2005). According to William Xu, Huawei’s Vice President, more than 10,000 engineers work at the company on developing its patents and other intellectual property; 40% of them hold a Master’s or higher degree (Einhorn, 2003).

According to telecom research and consulting companies Dittberner (2005), Infonetics (2005) and RHK, Huawei has already reached significant market shares in key product areas in terms of global sales (Figure 8-10).
Figure 8: Huawei’s global market share in switching and next generation networking (NGN) products (Dittberner, 2005)

Figure 9: Huawei’s global market share in integrated access network products and digital subscriber line access multiplexers (DSLAM), as in sales for the third quarter of 2004 (Infonetics Research 2004; Dittberner, 2005)

Figure 10: Huawei’s global market share in optical networks, according to RHK statistics (Huawei, 2005b)
4.2.2 Vision, mission and strategy

The vision of Huawei Technologies is “to enrich life through communication”. The mission of the company is “to focus on its customers’ challenges and needs by providing excellent communications networks solutions and services in order to consistently create maximum value for customers” (Huawei Technologies, 2005).

The company’s core strategy focuses on five driving forces (ibid);

1. Being international
2. Transforming management
3. Customer focus
4. Partnerships
5. Robust R&D

The internal ambition of Huawei is to become a world-class telecommunications equipment provider by 2008, with sales and revenues reaching the Top 4 or 5 position among all telecom equipment companies in the world (Huawei1 interview, 2005). According to the senior manager (ibid), Huawei will achieve this goal by relying on the Huawei spirit of working harder than its industry competitors and the company’s strong customer focus.

Huawei has summed up its core strategies in four points in their annual report (2005);

- Serving customers is the only reason Huawei exists. Customer demand is the fundamental driving force of the company’s development.
- High quality, excellent service, low operating cost, and giving top priority to meet customer requirements, in order to enhance their competitiveness and profitability.
- Continuously performing management transformation to realize efficient process-based organizational operation to ensure high quality end-to-end delivery.
- Developing with Huawei’s peers in the industry as both competitors and partners to jointly create a favorable environment and share the benefits of the value chain.

4.2.3 Ownership structure and financial results

Huawei is currently a privately owned company, with no public listing planned for the near future (Huawei1 interview, 2005). Nearly 100% of the company is held by Huawei Investment, “a company in which employees participate through an Employee Stock Ownership Plan” (von Zedtwitz, 2005b, p 68). The founder Ren Zhengfei claims to own less
than 2% of Huawei, and the Chinese government owns an insignificant portion as well (ibid; Huawei1, 2005).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>3,827</td>
<td>2,694</td>
<td>2,128</td>
<td>2,290</td>
<td>1,933</td>
</tr>
<tr>
<td>Net Income</td>
<td>624</td>
<td>384</td>
<td>108</td>
<td>258</td>
<td>345</td>
</tr>
<tr>
<td>Cash Flow From Operations</td>
<td>396</td>
<td>385</td>
<td>311</td>
<td>204</td>
<td>255</td>
</tr>
<tr>
<td>Operating Profit Margin</td>
<td>18%</td>
<td>19%</td>
<td>10%</td>
<td>17%</td>
<td>24%</td>
</tr>
<tr>
<td>Return on Net Assets</td>
<td>31%</td>
<td>23%</td>
<td>7%</td>
<td>20%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Figure 11: Huawei’s key corporate financial data (Huawei Technologies, 2005, p 5)

![Figure 11: Huawei’s key corporate financial data](image)

Figure 12: Development of Huawei’s revenue, net income and cash flow, 2000-2004 (Huawei Technologies, 2005, p 5)

Huawei has maintained a healthy financial growth during the last five years, in terms of sales and revenue (Figure 11-12). During the period of 2000 and 2004, Huawei’s average annual growth in revenue is 19%; in the same period the net income had an average annual growth of 16% (Huawei Technologies, 2005).

4.2.4 Internationalization of sales

The amount of the company’s overseas sales has increased from US$ 50 million in 1999 to US$ 2.24 billion in 2004, accounting for 41% of Huawei’s total sales (Huawei Technologies, 2005, p 13). In 2005, Huawei’s overseas revenue will for the first time be larger than domestic sales, accounting for more than half of the company’s total revenue (Huawei1 interview,
Huawei2 interview, 2005). More importantly, international sales does no longer consist of mere commoditized products where low price is the key factor. Huawei’s products and solutions for third generation (3G) mobile networks have been commercially purchased and deployed in the United Arab Emirates, Hong Kong, Malaysia, Mauritius and the Netherlands (von Zedtwitz, 2005b).

"Are we a global player? Fortune Magazine says that is when international sales exceed 20% of your total. So the answer is yes!"

- Hu Yong. Vice President at Huawei Technologies

(The Economist, 2005a)

According to Huawei (2005b), “target markets such as Russia, Thailand, Hong Kong, Singapore, India, Pakistan, Indonesia, Malaysia, Brazil, Egypt, Saudi Arabia, Nigeria, Kenya, Zimbabwe and Bulgaria have become the company's major sales bases and helped market expansion”.

Initially, Huawei’s internationalization efforts mainly targeted developing countries, but the company is now “gaining traction in the developed world, in Europe in particular” (The Economist, 2005b). In December 2004, Huawei was awarded its first European contract for third generation (3G) mobile networks by Telfort, a Dutch telecom operator (Harney, 2005).

Figure 13: Edward Deng, Huawei’s President Europe and Ton aan de Stegge, Telfort CEO at the signing ceremony of the Telfort contract (Huawei, 2005a)
In June 2005, a letter arrived at Ton ann de Stegge's office in Amsterdam from a Chinese telecommunications equipment company. The chief executive of the Dutch operator Telfort had never heard of the company and gave little thought to its offer of becoming a supplier.

But later that month, the Chinese supplier's name came up again at a meeting for a research and development group where Mr. ann de Stegge was a director. Intrigued by the company's reputation for providing competitive technology at prices well below those of its rivals, the chief executive asked his staff to find out just what this Huawei Technologies was.

Within six months Telfort had picked Huawei to build its third generation mobile phone network, passing up an offer from Ericsson, the operator's main supplier since 1998 (Figure 13). The Chinese company will provide a nationwide 3G network for Telfort that can be managed together with its existing network, which was built by Ericsson.

Ton ann de Stegge, Telfort's chief executive who only a few months ago expressed doubts about 3G services, was impressed with Huawei's product offerings and flexibility. "They demonstrated that they are an extremely successful partner," he said.

"I'm absolutely convinced that . . . three years from now Huawei will be one of the largest infrastructure suppliers in the telecoms area," says Mr ann de Stegge, who until 1999 was chief executive of Ericsson's operations in the Netherlands.

(adapted from article by Harney, 2005, p 15-16)
Huawei’s standing in the telecom equipment industry was strengthened considerably after the signing of the 3G-contract with Telfort, solidifying its position as one of the major global suppliers of telecommunications equipment (The Economist, 2005b). Two months after the significant contract in the Netherlands, Huawei was named “a key supplier by COLT, a British operator, and also won a US$ 100 million broadband contract from Optus, an Australian firm” (ibid).

Huawei’s competitive prices have inevitably contributed to the increasing success the company is enjoying in developed markets. A price of 30% lower than those of established suppliers is made possible since the company relies on a pool of engineers in China, where salaries are a fraction of those in more developed countries. Bert Norberg, Executive Vice President for sales and marketing at Ericsson, recalls that when he first encountered Huawei in countries such as Laos and Cambodia three years ago, its prices "were below walk-away price for us" (Harney, 2005, p 15). In January 2005, Huawei won a US$ 187 million order for a 3G mobile network in Thailand, beating Ericsson and Motorola with a bid 46% below the operator’s original estimate (The Economist, 2005b).

Figure 14: Huawei Technologies’ global presence (Huawei, 2005a)
Huawei has offered powerful incentives to clinch contracts in developed markets. In 2001 Neuf Telecom, the French operator and Internet service provider, had already selected the companies from which it wanted to solicit bids to build a broadband Internet network when a Huawei executive called to ask if his company might also compete for the contract.

"We were interested, but they were in China. We wondered: what is their capability to deploy something here in France?" recalls Michel Paulin, Neuf's chief executive. Huawei's executives came back with an unbeatable offer: they would build part of the network and run it for three months to allow Neuf's engineers to test it - for free!

It took Huawei less than three months to build the network, at a cost, Mr Paulin estimates, of several million euros. The Chinese company won the contract and saved Neuf 10-20% of what it might have paid.

Lower price is not the only sales argument; many of Huawei’s customers have highly commended the company’s strong customer focus. "They list what you tell them and afterwards, they respond," says Mr Paulin.

Huawei’s success in developed markets has caught the attention of first-tier operators like British Telecom (BT) and Vodafone. “BT is expected to announce the suppliers for its new ’21st Century Network” soon, and Huawei is on the shortlist” (The Economist, 2005b).

There is evidence that Huawei can compete on more than just price. A recent report, based on a survey of over 100 telecom operators worldwide, found that Huawei ranked 8th among wireline equipment suppliers, up from 18th last year. In the category of service and support, Huawei was ranked 4th overall (ibid). This is the result of Huawei’s effort to build a global service platform (Figure 14); currently the company has established 8 regional headquarters and 55 branch office outside China (Huawei, 2005a).
Huawei’s internationalization process has not been entirely a smooth ride. There have been several incidents concerning the innovative capability of the Chinese company. According to Financial Times, one observer who had spent time with the company says that many of Huawei’s products appear to be derived from those of other companies in the industry – whether through "patent mining", a legal process of combing through patents to identify opportunities, or through reverse engineering, which involves buying a rival's product, taking it apart and designing a product based on the rival's engineering. The technological and innovative capability of Huawei is also being questioned by Max von Zedtwitz (telephone interview, 2005), who is an expert on global R&D management. The company vehemently denies such accusations by pointing to its 6,500 patent applications as of the end of 2004.

However, Huawei has run into trouble on this front more than once. In 2003, Cisco Systems sued the Chinese telecom equipment vendor in a Texas court for theft of intellectual property and copyright violation. The lawsuit was settled when Huawei agreed to modify the products that had prompted the dispute. In July 2004, Fujitsu Network Communications caught a Huawei engineer removing the cover from a piece of networking equipment at a Chicago trade show and taking pictures of the circuits inside. Huawei later fired the employee and said his actions were not authorized.

Huawei consistently dismisses doubts about its innovative capabilities. "This is nonsense," says William Xu, the company’s Executive Vice President, rattling off a list of technology products that his company was the first to introduce. "If you talk to competitors, they always say this. This is the most efficient strategy for them to stop us in these markets."

(adapted from article by Harney, 2005, p 15-16)


4.2.5 Internationalization of R&D

Huawei has consistently invested more than 10% of the annual revenue in research and development since the founding of the company. “We have adopted a different strategy from Lenovo and TCL”, claims William Xu, Huawei’s Vice President, referring to the two Chinese computer and electronic companies that have made significant international purchases in the past two years. “China’s biggest advantage is low-cost development”, Xu concludes (Harney, 2005, p 15). To tap into China’s large pool of graduates who are willing to work for a relatively low salary compared to Western engineers, Huawei has set up four R&D centers in the country. In addition, the company has set up four centers outside China’s borders, to further strengthen technology and product innovation within the company by utilizing the experience and know-how of foreign engineers (von Zedtwitz, 2005b). According to a senior Huawei executive (Huawei1 interview, 2005) in Shanghai, the company’s R&D operations consist of two wings; the first is the overseas foreign engineers working with advanced and state-of-the-art technologies, the other is the mass amount of Chinese engineers working with technology refinement, implementation and adaptation.

Due to Huawei’s eagerness and focus to attract experienced and knowledgeable engineers in developed markets, the selection of Huawei’s international locations has been partly affected by the talent pool available in specific countries and regions (Table 4). According to senior managers (Huawei1 interview, Huawei2 interview, 2005) with experience and insight in the company’s global R&D operations, Huawei intends to attract and employ the best people with the most relevant experiences and acquiring the best industry know-how.

Table 4: Huawei’s R&D center locations worldwide and their research focus/dedication, compiled through information in the company’s annual report (Huawei Technologies, 2005)

<table>
<thead>
<tr>
<th>R&amp;D center location</th>
<th>Product development specializations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stockholm, Sweden</td>
<td>Base station architecture and system design; radio technologies;</td>
</tr>
<tr>
<td>Dallas, USA</td>
<td>ASIC technologies; CDMA algorithm</td>
</tr>
<tr>
<td>Bangalore, India</td>
<td>Software technology / platform</td>
</tr>
<tr>
<td>Moscow, Russia</td>
<td>Algorithm and RF</td>
</tr>
<tr>
<td>Shenzhen, China</td>
<td>CN and service platform</td>
</tr>
<tr>
<td>Shanghai, China</td>
<td>RAN, terminal, ASIC chipset</td>
</tr>
<tr>
<td>Beijing, China</td>
<td>Packet CN, GW, terminal</td>
</tr>
<tr>
<td>Nanjing, China</td>
<td>BOSS, 3G services</td>
</tr>
</tbody>
</table>

(adapted from article by Harney, 2005)
Huawei’s Swedish R&D center is located in Kista in northwest Stockholm, an area once dubbed *The Wireless Valley*\(^2\) of the world. Sweden is the home base of Ericsson, one of the world’s leading telecom equipment providers. Huawei has greatly benefited from the rich local talent pool of telecom experts and engineers, recruiting both former Ericsson employees and newly graduates with specialization in wireless communication (Huawei\(^2\), 2005; von Zedtwitz, 2005b).

Huawei’s logic of tapping into the local human resources and expertise is implemented for the other three international R&D centers as well. India has a vast amount of experienced software designers and engineers, due to the large number of IT firms and high quality university graduates. Dallas, USA is situated closely to Huawei’s key American competitors Lucent and Cisco, where they have created talent resources for chip design and CDMA mobile technologies (Huawei\(^2\) interview, 2005; von Zedtwitz telephone interview, 2005). Lastly, Russia has traditionally fostered talent and experts in computer programming and mathematical algorithms.

### 4.2.6 Partnership with foreign companies

Huawei has cooperated with large foreign multinationals with expertise and know-how at different levels and within a number of diverse areas (Table 5).

<table>
<thead>
<tr>
<th>Partnering company</th>
<th>Areas of cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM</td>
<td>Product development process and management</td>
</tr>
<tr>
<td>HAY Group</td>
<td>Human resource management</td>
</tr>
<tr>
<td>KPMG</td>
<td>Auditing; financial reports</td>
</tr>
<tr>
<td>PriceWaterhouseCoopers</td>
<td>Financial management</td>
</tr>
<tr>
<td>Fraunhofer Gesellschaft</td>
<td>Production management and quality control</td>
</tr>
<tr>
<td>TowersPerrin</td>
<td>Financial management</td>
</tr>
</tbody>
</table>

Table 5: Huawei’s partnering companies and the areas of cooperation, compiled through information in Telecommunications International (2002) and Tang (2004)

According to Huawei’s senior managers (Huawei\(^1\) interview, 2005; Huawei\(^2\) interview, 2005), the entire organizational structure of Huawei’s R&D operations has been adapted to IBM’s *Integrated Product Development* (IPD) process. The company headquarters in Shenzhen allocate resources and set objectives as well as deadlines for *product development*.

teams (PDT). A PDT is then assembled with a team leader, an R&D leader, a purchase leader, a manufacturing leader and a marketing leader. Once the product is finished and the objectives met, the PDT is dissolved (Huawei interview, 2005). This cooperation has significantly increased Huawei’s R&D processes and efficiency, according to the same senior manager (ibid).

Jun Fu, head of Huawei’s media department, acknowledges that the company has benefited tremendously from its association with HAY Group. By implementing the American consulting firm’s human resource management system based on clear job division and efficient performance measurement, Huawei has been able to drastically improve its organizational structure, employee competence and the corporate compensation system (Tang, 2004).

Since Huawei is a privately owned company, there has been some criticism regarding the transparency and accuracy of the corporate financial information provided by the company. Jun Fu mindfully points out that Huawei is one of the few companies in the world to employ different companies for auditing (KPMG) and financial advice (PriceWaterhouseCoopers and Fraunhofer Gesselschaft), in order to ensure accuracy of financial data (ibid). In order to strengthen Huawei’s image of financial transparency, the firm will hold its analysts’ event in Europe for the first time this year (The Economist, 2005b).

4.2.7 Government influence

As previously mentioned, the Chinese government is barely represented in Huawei’s ownership structure. Even so, according to von Zedtwitz (telephone interview, 2005), the government connections may well have played an indispensable role at the inception of Huawei. The founder of the company, Ren Zhengfei, is a former officer in the People’s Liberation Army (PLA). His experience and connections may have helped him to establish a communications equipment company in the early days of Shenzhen’s economic development (Dunren interview, 2005). According to TIME Magazine, at the early stages of Huawei’s corporate history, it was a top builder of communication networks for the Chinese army (Forney, 2005a).

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3 Ren Zhengfei was selected by TIME Magazine as one of the world’s 100 most influential persons in 2005. Read more about him in the April 10, 2005 issue of TIME Magazine.
Today, the government influence may not be all positive. Huawei (interview, 2005) points out that the company has in the past been sacrificed or compromised of contracts in Chinese government’s political and diplomatic plays. Other industries (e.g. textiles industry) employ far more people in strategic rural and industrial areas, thus the government is keen to negotiate better trade deals for these companies and compromise the domestic and international sales of Chinese telecom equipment firms. Huawei, ZTE and all the other major Chinese telecom companies are expanding rapidly and steadily on their own organizational and technological competence, thus it is probable that these companies are not prioritized by the Chinese government, compared to Chinese enterprises in other strategic sectors (ibid).

4.3 ZTE’S GLOBALIZATION STORY

4.3.1 Corporate profile

Founded in 1985 as an offshoot of China’s Ministry of Aerospace Industry, Zhongxing Telecom Equipment Company (ZTE) is China’s biggest publicly listed maker of telecom equipment. The company’s stocks are being traded on the stock exchanges of Shenzhen and Hong Kong (Business Week, 2005). ZTE is “engaged in design, development, production, distribution and installation of a broad range of advanced telecommunications systems and equipment”, with products ranging from wireless communications systems to mobile handsets to software systems and services. The company’s diversified product portfolio has been sold to over 150 customers in over 60 countries and regions worldwide (ZTE Corporation, 2005a).

ZTE has 25,000 employees with an average age of 30 years old; 60% of the total hold a Bachelor’s degree or higher. 32.5% of the staff is engaged in research and development, where the company invests more than 10% of its annual revenue each year (Figure 15).

![ZTE’s employee structure](image)

Figure 15: ZTE’s employee structure (ZTE Corporation, 2005a)
ZTE has since its initial public offering (IPO) on the stock exchanges in Shenzhen and Hong Kong received numerous acknowledgements and acclaim in both domestic and international press. The company was accredited “China’s Top 10 Listed Companies” for four times by *China Securities and Asia Business* (ZTE Corporation, 2005a). A recent ranking by Business Week listed ZTE as number 80 among the top 100 information technology companies in the world (Business Week, 2005).

### 4.3.2 Vision, mission and strategy

There is no clear corporate vision or mission to be found in the company’s annual reports or homepage. Jeff Ji, ZTE’s Sales Director for Northern Europe, presented the following three points as ZTE’s vision at an event in Stockholm, Sweden (Ji, 2005).

- A truly global and local company by 2008, with 50% of revenue generated from overseas markets.
- Leader in telecom industry through sustainable growth and continuous innovation.
- Provides superior information and entertainment services and solutions to global users.

The company’s core strategy relies on five key elements (ibid):

- Service (servicing the customers well)
- Talents (recruit and foster domestic and international talents)
- Business process (constantly improving internal business processes)
- Cost (lower production and R&D cost in order to keep competitive prices)
- Culture (fostering a culture of respect and constant improvement).

### 4.3.3 Ownership structure and financial results

ZTE is only partly listed on stock exchanges (37.72% listed vs. 62.28% unlisted), according to Jeff Ji (2005). Major foreign shareholders within the listed part include Swiss Bank, Deutsche Bank and Morgan Stanley (ibid).

Some of the unlisted shares are owned by company employees, whereas the rest is owned by holding companies with government ties. The ownership structure of the unlisted shares is presented in Figure 16.
Zhongxing WXT is a private high technology enterprise and the employee stock options are yielded through this company. Xi’an Microelectronics, a subsidiary of China Aerospace Times Electronics Corporation, is a state-owned research institute. Aerospace Guangyu is a wholly state-owned enterprise and a subsidiary of China Aerospace Science & Industry Corporation (ZTE Corporation, 2005a, p 25). These three companies together form Zhongxingxin – the company representing the unlisted shares of ZTE.

Financially, ZTE has grown steadily in terms of sales and revenue in the recent years (Figure 17). The compound annual growth rate (CAGR) for the company’s net profit is slightly over 27% during the period from 2002 to 2004, and the annual growth rate for total revenue is at 21% (ibid, p 14).

4.3.4 Internationalization of sales

Hou Weigui, chairman of the company, pointed out ZTE’s breakthrough in international sales with significant growth during 2004 in the company’s latest annual report (ibid, p 10-13). Revenue generated from overseas sales reached US$ 566 million, an increase of 133.5% year on year (Figure 18). Overseas sales now account for 21.5% of the total revenue, compared to
11.5% in 2003 (ibid, p 69). ZTE’s international success is not limited to developing markets, its telecom products and services have been implemented in such countries/regions as Norway, Greece and Hong Kong (ZTE Corporation, 2005b, p 14, 24-25).

<table>
<thead>
<tr>
<th>Region</th>
<th>2004 Revenue</th>
<th>2004 Percentage of turnover</th>
<th>2003 Revenue</th>
<th>2003 Percentage of turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>The PRC</td>
<td>16,644.5</td>
<td>78.5%</td>
<td>15,075.4</td>
<td>88.5%</td>
</tr>
<tr>
<td>Asia (excluding the PRC)</td>
<td>2,459.9</td>
<td>11.6%</td>
<td>1,043.3</td>
<td>6.1%</td>
</tr>
<tr>
<td>Africa</td>
<td>1,513.1</td>
<td>7.1%</td>
<td>829.3</td>
<td>4.9%</td>
</tr>
<tr>
<td>Other regions</td>
<td>602.6</td>
<td>2.6%</td>
<td>91.1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Total</td>
<td>21,220.1</td>
<td>100.0%</td>
<td>17,086.1</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Figure 18: Worldwide geographical distribution of ZTE’s revenue, 2003-2004, calculated in RMB million (ZTE Corporation, 2005a, p 69)

Hou Weigui, ZTE’s company chairman, spends a quarter of his time overseas in his efforts to visit all 80 nations where ZTE conducts business. “I was thinking about it on a plane one day: I’ve now been to 40 countries. That’s only half”, exclaimed Mr Hou in an interview (Dickie, 2005).

ZTE signed its first international deal in 1999, in Pakistan (Ji interview, 2005). Since then, the company has thoughtfully aimed for an international expansion into the European and other matured markets. In order to minimize investment risk and avoid cultural obstacles, ZTE has employed the tactic of first establishing R&D center in a developed market, followed by sales office when the timing and market conditions are judged suitable (Chen telephone interview, 2005).

According to Jeff Ji (interview, 2005), ZTE’s Sales Director for the Nordic region, the company conducted thorough feasibility and market studies in an entire year prior to the establishment of the sales office in Stockholm. The preparation effort culminated with a four-day visit to Sweden by ZTE’s R&D Director Lou Zhongsheng, in March 2005 (Ahlbom, 2005). In April 2005, ZTE opened its sales office for the Nordic region in Stockholm, after having already secured several deals in the Swedish market (Ji interview, 2005).

4.3.5 Internationalization of R&D

ZTE has established 12 R&D centers (Figure 19); 7 of them are located in China and 5 overseas (3 in the United States, 1 in Sweden and 1 in South Korea). Each research center concentrates on specific areas and fields of interest, depending on the local talent and
resources. The Swedish operation is dedicated to research in third generation (3G) mobile core technologies, whereas R&D centers in the United States mainly facilitate information collection and exchange (ZTE Corporation, 2005b).

The staff in R&D centers based outside China usually consists of 50% foreign nationals recruited locally and the rest is dispatched from ZTE’s China offices (Ji interview, 2005).

The global presence of ZTE reaches 60 countries and regions; Figure 20 indicates where ZTE has sales- and R&D offices, as well as the locations of ZTE’s customers.

Part of ZTE’s internationalization strategy is to participate in international standard governing bodies and organizations, in order to gain a forward-looking position globally (ZTE Corporation, 2005b). ZTE is a sector member of the International Telecommunication Union (ITU), it has also, as the first Chinese company, become member of 3GPP2 (The Third
Memberships in other international organizations include WiMAX Forum, DSL Forum, IPV6 Forum and Open Mobile Alliance (ibid).

4.3.6 Partnership with foreign companies

ZTE has adopted an approach of globalization through localization, namely penetrating new national markets through partnerships with locally strong companies (Ji interview, 2005). Thus, the partnerships ZTE has formed consist mostly of foreign technology companies (Table 6) – either as distribution and service partners in the local market (e.g. partnerships with Ericsson and Alcatel) or as technology and solutions providers (e.g. partnership with Switchcore).

<table>
<thead>
<tr>
<th>Partnering company</th>
<th>Areas of cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ericsson</td>
<td>TD-SCDMA technology</td>
</tr>
<tr>
<td>Alcatel</td>
<td>CDMA technology</td>
</tr>
<tr>
<td>Intel</td>
<td>Wimax technology</td>
</tr>
<tr>
<td>Switchcore</td>
<td>Triple Play technology</td>
</tr>
<tr>
<td>Ernst &amp; Young</td>
<td>Auditing; financial reports</td>
</tr>
<tr>
<td>Price Waterhouse Coopers</td>
<td>Financial advice (worldwide partner)</td>
</tr>
</tbody>
</table>

4.3.7 Government influence

The ownership structure of ZTE clearly signals strong government ties; the company itself was an offshoot from a Chinese state ministry, and two of the shareholder companies (together controlling 51% of ZTE’s unlisted shares) are state-owned entities.

The Chinese government has also played a significant role in ZTE’s globalization push, by creating competitive advantage for the company financially (Ji interview, 2005). The financial strength of a telecom equipment provider, in terms of its own financial capability and its ability to provide financing for telecom operators, is vital when negotiating for international deals. Since the Chinese government is keen on promoting export growth in high-tech fields, ZTE has received strong government backing and financial loans and commitments to ensure that the financing part would not become an obstacle when signing deals and agreements overseas (ibid).
5 ANALYSIS

In this chapter, a concise analysis of the extent and degree of globalization of the worldwide telecommunications equipment industry is provided. The globalization strategies of the two largest Chinese telecom equipment companies are analyzed by applying different models and concepts, in order to identify the key specifics and characteristics.

5.1 GLOBAL TELECOM EQUIPMENT INDUSTRY AND MARKET

The extent and degree of globalization within the worldwide telecom equipment market is analyzed based on Yip’s 19 globalization drivers, which is the most widely used framework in this area (Stonehouse, et al., 2000, p 77). Each aspect – market, cost, government and competitive – are separately examined based on historical and relevant industry statistics and data.

5.1.1 Globalization drivers (Market)

<table>
<thead>
<tr>
<th>Market</th>
<th>Pressure for globalization</th>
<th>Pressure for localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>Global customers</td>
<td>Local customers</td>
</tr>
<tr>
<td>Channels</td>
<td>Global channels</td>
<td>Local channels</td>
</tr>
<tr>
<td>Marketing</td>
<td>Transferable marketing</td>
<td>Differentiated marketing</td>
</tr>
<tr>
<td>Countries</td>
<td>Lead countries</td>
<td>No obvious lead countries</td>
</tr>
</tbody>
</table>

Table 7: The globalization drivers (market); forces dominated by pressure for globalization are marked in grey.

According to the information and data provided in the annual reports of the largest telecom equipment vendors, most of their business and revenue is concentrated on a few significant customers worldwide. This is not out of the ordinary since the top 20 wireless service providers collectively account for the majority of all wireless subscribers in the world. The top 10 mobile operators (3 based in Asia, 5 in Europe and 2 in the Americas) have together nearly 900 million subscribers worldwide, making them the most important and targeted customers of telecom equipment vendors.

Since the most significant customers are relatively evenly dispersed around the world, most of the sales and revenue of large telecom equipment vendors are generated outside of their countries of origin. Over 90% of the revenues of Ericsson, Nokia and Nortel are generated...
outside of their home countries; a contributing factor is naturally the relative small size of their home markets.

An overview of the 10 largest telecom equipment vendors in the world clearly demonstrates specific countries’ leading positions within the field of telecommunications technology. The United States of America is dominating the list with four companies, the European Union is home to four of the companies, and the remaining two are situated in Canada and Japan respectively. The largest telecom equipment vendors are all based in advanced countries that are in the forefront of leading the wireless and information technology (IT) development.

5.1.2 Globalization drivers (Cost)

<table>
<thead>
<tr>
<th>Cost</th>
<th>Pressure for globalization</th>
<th>Pressure for localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economies of scale</td>
<td>High fixed costs</td>
<td>Low fixed costs</td>
</tr>
<tr>
<td>Experience curve</td>
<td>Steep learning curve</td>
<td>Shallow learning curve</td>
</tr>
<tr>
<td>Sourcing</td>
<td>Centralized purchasing</td>
<td>Decentralized purchasing</td>
</tr>
<tr>
<td>Logistics</td>
<td>Low transport costs, no need to locate near customers</td>
<td>High transport costs, need to locate near customers</td>
</tr>
<tr>
<td>Country costs</td>
<td>Differences in costs</td>
<td>Similarities in costs</td>
</tr>
<tr>
<td>R&amp;D cost</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Technological change</td>
<td>Rapid</td>
<td>Slow</td>
</tr>
</tbody>
</table>

Table 8: The globalization drivers (cost); forces dominated by pressure for globalization are marked

A dominance of telecom equipment vendors based in developed countries indicates a steep learning curve for new-comers. For example, Ericsson has been operating in the telecommunications business for more than 100 years and even in the current environment of rapid technological change, the company still retains its competitive advantage in technical innovation and competence. Huawei1 (interview, 2005) claims that it will take 10-20 years for Huawei to be able to seriously challenge the dominating positions of Ericsson, Cisco and Nokia in developed markets, since it is “all about R&D experience accumulation”.

Logistics-wise, there is not a clear trend among the largest telecom vendors to locate production facilities near their customers. Many companies are shifting their production and R&D locations to Southeast Asia, in order to lower production cost and tap into the large
amount of local graduates. The drive for lower cost is more imperative than to base production near major customers, which are relatively scattered all over the world.

Research and development of new technologies and products is essential for technology intensive companies, and it constitutes a significant amount of expenditure for telecom equipment vendors. Almost all of the large telecom equipment providers, regardless of whether they are based in a developed or developing country, are pouring between 10-20% of their annual revenue into research and development. The two Chinese telecom vendors in the study have established R&D centers in all the major telecom and software engineering clusters (Stockholm, Dallas, Bangalore) in the world.

The pace for change and development in the telecom industry is rapid and accelerating, to the point of accepting and using new technologies and inventions has become a part of our daily lives (Gibson, 2001). Since the conception of wireless technology and terminals in the 1980's, the mobile technology realm has already experienced three paradigm shifts from first generation (NMT) to second generation (GSM) to third generation (UMTS, CDMA2000). Technology inventions like WAP and GPRS have enabled Internet browsing on mobile handsets and enhanced consumer usability in addition to the three generational transformations.

5.1.3 Globalization drivers (Government)

<table>
<thead>
<tr>
<th>Government</th>
<th>Pressure for globalization</th>
<th>Pressure for localization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade policies</td>
<td>Low trade barriers</td>
<td>High trade barriers</td>
</tr>
<tr>
<td>Technical standards</td>
<td>Compatible</td>
<td>Incompatible</td>
</tr>
<tr>
<td>Marketing regulations</td>
<td>Common</td>
<td>Different</td>
</tr>
<tr>
<td>Government ownership</td>
<td>Government-owned</td>
<td>Government-owned</td>
</tr>
<tr>
<td>Host government concerns</td>
<td>Policies which favor global businesses</td>
<td>Policies which hinder global businesses</td>
</tr>
</tbody>
</table>

Table 9: The globalization drivers (government); forces dominated by pressure for globalization are marked.

According to OECD (1991), the global telecom equipment market is one of the most international due to few trade barriers and a relatively deregulated telecom services market. Developed countries like the U.S. and U.K. deregulated their internal telecom markets in early
1980’s, prompting a dramatic increase in international trade of telecommunications equipment. In recent years, many developing countries in Latin America have deregulated their telecom markets as well, creating huge, new markets for telecom vendors (Rhoads, Hutzler, 2004). The Chinese telecom equipment vendors have made significant progress in these emerging regions, due to the diminished importance of longstanding ties between carriers and vendors in these countries.

The technical standards used in fixed and wireless telecommunication are generally uniform all over the world, since there is a common understanding among national governments of the need for compatible and interoperable telecommunication standards (OECD, 1991). Major telecom equipment vendors have actively created and participated in international standardization bodies or forums, in order to develop compatible technologies and ensure interoperability.

Most of the largest telecom equipment vendors are publicly listed companies, with local governments holding a small portion of ownership stocks. Several of the biggest wireless and telecom operators are still state-owned, including NTT, China Mobile, France Télécom (International Telecommunication Union, 2001b).

5.1.4 Globalization drivers (Competitive)

<table>
<thead>
<tr>
<th>Competitive</th>
<th>Volume of exports</th>
<th>Pressure for globalization</th>
<th>Pressure for localization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High exports &amp; imports</td>
<td>Low exports &amp; imports</td>
<td></td>
</tr>
<tr>
<td>Competitors</td>
<td>Competitors from different continents</td>
<td>Local competitors</td>
<td></td>
</tr>
<tr>
<td>Interdependence of countries</td>
<td>Countries largely interdependent</td>
<td>Countries largely independent</td>
<td></td>
</tr>
</tbody>
</table>

Table 10: The globalization drivers (competitive); forces dominated by pressure for globalization are marked

A high volume of exports and imports in telecommunications equipment can be detected, after the successive deregulation of national telecom services markets in both developed and developing countries in the past 20 years, according to OECD (1991) statistics.

Due to the limited amount of significant customers (telecom services operators) scattered all over the world, large telecom equipment vendors based in different countries and continents
are constantly competing with one another for contracts on a global basis. The competition between companies from different continents becomes more evident when five of the top 10 telecom vendors are based in North America, four in the European Union and one in Japan.

Telecommunications equipment vendors are awkwardly interdependent on one another, based on the current competitive framework of “competing-on-contracts & cooperating-on-technologies”. There is a common desire and understanding among telecom equipment vendors for compatible and interoperable worldwide standards, but they are at the same time locked in fierce battles for contracts on a global scale. Hiccups in this contradictory relationship may sometimes lead to ugly court battles, as demonstrated in a recent legal row between Nokia, Ericsson, NEC and Qualcomm (Levine, 2005).

5.1.5 Summary of globalization drivers

Among Yip’s 19 globalization drivers, there is pressure for globalization in 14 accounts within the worldwide telecommunications equipment industry and market (Table 7-10). The condition of the remaining 5 drivers is either unclear or dominated by pressure for localization.

The overwhelming majority of the globalization drivers indicate that the worldwide telecom equipment industry and market is to a large extent and degree globalized. This conclusion is echoed by a number of other sources (OECD, 1991; Lannon, 1992).

5.2 GLOBALIZATION STRATEGIES OF HUAWEI AND ZTE

Huawei and ZTE are partly or entirely private owned Chinese companies vying for global expansion in developing and developed countries. Both companies are founded and located in Shenzhen, the first city in China designated for Deng Xiaoping’s economic reform policies. These two companies have developed steadily and rapidly in the last two decades, emerging as serious contenders in the global telecom equipment market. ZTE increased its revenue by 25 times during the period of 1997 and 2004 (Ji, 2005); Huawei’s expansion has been equally impressive. More importantly, both companies’ growth and development were not seriously affected by the rumbles of the IT-bubble or the global telecom downturn at the beginning of this millennium.
By studying and analyzing the globalization strategies of Huawei and ZTE, one can find a wide range of similarities in their approaches. Certain differences do exist, which are mainly related to the differing ownership structures between the two companies. A set of unique characteristics emerges concerning these two telecom equipment vendors’ globalization drive; some of them are related to the technology intensive nature of the telecom business, some are specifically related to the Chinese origin of Huawei and ZTE.

5.2.1 China-centric

The People’s Republic of China is the home country and market of Huawei and ZTE. The majority of the sales and revenues generated by these companies are primarily derived from the mainland China operations. This is based on two factors; (1) Mainland China is a huge market for telecom equipment vendors, constituting a significant portion of the number of fixed-line and wireless subscribers worldwide (Interfax, 2003), and (2) Huawei and ZTE are still in the early stages of their globalization process. Revenue generated outside of China’s borders has risen dramatically since the start of both companies’ globalization push. As a matter of fact, Huawei’s overseas revenue in 2005 will for the first time rise above the revenue generated domestically, constituting more than 50% of the total revenue (Huawei1 interview, 2005). Even so, for the foreseeable future, the domestic Chinese market will continue to shoulder a substantial portion of Huawei’s and ZTE’s revenue, due to that market’s share size and rapid expansion.

The China-centric approach is not only visible in sales and revenue, but also in employee structures. In ZTE’s overseas offices and R&D center, half of the staff is usually recruited locally while the remaining employees are dispatched from China (Ji interview, 2005). For Huawei’s part, Chinese nationals constitute a large part of the company’s R&D operations overseas, except for India where 80% of the research staff in Bangalore are Indian nationals (von Zedtwitz, 2005b).

5.2.2 Focus on R&D

A high degree of Huawei and ZTE’s employees are educated engineers with a Bachelor’s degree or higher, and around 30-45% of all employees are working on research and development of products and technologies. This is naturally related to the technology intensive nature of the entire telecom business, where large telecom equipment vendors routinely invests more than 10% of the annual revenue in R&D activities.
The Chinese telecom equipment companies’ focus on R&D is evident in their globalization drive as well; Eddie Chen (telephone interview, 2005), Invest in Sweden Agency’s Chief Representative in China, depicted the internationalization strategy of Huawei and ZTE as firstly setting up R&D centers, which are then followed by sales offices. In other words, most of the international presence of these two companies was firstly initiated by establishment of R&D centers in key regions and areas with rich local talent pool; sales and representation offices constitute the second wave, after the refinement of technology and products. This approach minimizes the risk of poor local adaptation and knowledge; the formation of the tactic may also be driven by Huawei and ZTE’s eagerness to tap into expert knowledge and know-how in markets like Sweden, where many experienced engineers were left unemployed by Ericsson and Nokia during the telecom downturn in 2001 and 2002 (Huawei2 interview, 2005).

5.2.3 Foreign partnerships

Both Huawei and ZTE are actively cooperating with large multinational companies to assist in their globalization drive. Partnering with foreign companies is most extensive within Huawei, where improvements have been made in a number of strategic areas (product development, human resource management, financial advice, etc.) through collaboration with consulting firms and solutions providers. ZTE on the other hand has focused on technology partnerships, where the company can leverage the local know-how of foreign enterprises to penetrate new national markets. According to Jeff Ji (interview, 2005), the company’s Sales Director for Northern Europe, ZTE is actively seeking partners in supply, service and distribution in the Nordic region. The assistance and influence provided by foreign companies with distinctive know-how or rich globalization experiences have inevitably sped up Huawei and ZTE’s globalization process. Partnerships with large foreign multinationals also bring legitimacy to both companies’ product quality and international leverage.

Huawei’s cooperation with foreign companies is aimed at creating win-win situations for both parties, according to a Huawei senior manager in Sweden (Huawei2 interview, 2005). On the one hand, Huawei can benefit from the best practices and know-how introduced by the experienced foreign multinationals; in the meantime these foreign companies can better penetrate the mainland Chinese market where Huawei is the dominant player with rich experiences (ibid). Similar synergy effects can be found in ZTE’s partnerships with Ericsson and Switchcore (Ericsson, 2005b; Switchcore, 2005).
5.2.4 Government influence and control

“In China, almost every significant business operations have some shadow of government connection”, claims Zhou Dunren (interview, 2005), Professor of Chinese Economics and Politics and a commentator on China-related issues for BBC. The guiding macroeconomic policies have enabled and facilitated the founding and continuous growth of Huawei and ZTE. It is not a coincidence that both companies’ headquarters are situated in Shenzhen, which is economically the most open city in China. Professor Zhou (ibid) contends that a Huawei in Shanghai or a ZTE in Beijing is unimaginable, because of the different overall political and economic conditions in these cities.

The Chinese Communist Party has found new ways to influence corporate and personnel decisions in joint ventures (JV) and privately owned companies by establishing Party Committees in office buildings and industrial parks (Gu interview, 2005). The unit of control and influence is thus shifted from within each company to one entire office building or industrial park, since the government can not directly set up Party Committees within private or JV firms. According to Assistant Professor Gu Limei, who is an expert on Chinese political transformation, this innovative methodology has attracted many overseas Chinese who have come back to the country to work for JVs or multinational companies, since the Party Committees can provide assistance for everything from housing to schooling for the children – services that carry great importance for the returning overseas Chinese without a proper guanxi network in China.

The influence of the government can affect the globalization drive of Huawei and ZTE both positively and negatively, in terms of the companies’ overseas sales and revenue. Since the Chinese government is actively promoting globalization of Chinese enterprises as well as export growth in high-tech fields, Huawei and ZTE are assured recipients of government support and financial backing. In December 2004, Huawei signed a financing agreement with the state-owned China Development Bank (CDB) “under which CDB will support Huawei’s international expansion with a massive credit facility of US$ 10 billion for both Huawei and its customers abroad in the next five years” (von Zedtwitz, 2005b; Forney, 2005b). ZTE has received similar financial commitments from the Chinese government and state-owned financial institutions (Ji interview, 2005). This constitutes a significant competitive advantage in both companies’ globalization drive, since financing is a critical aspect when signing international deals in telecom equipment (ibid).
The impact of the Chinese government is not all positive; international and domestic telecom equipment deals may be compromised due to political and diplomatic reasons (Huawei interview, 2005). Huawei and ZTE are both companies within the technology sector, which has experienced a rapid and healthy growth in the past 5-10 years. The trend is deemed to continue in the foreseeable future, driven by a steady growth of subscribers and constant technology transformation. It is highly probable that during international and bilateral trade negotiations, the Chinese government opts to prioritize other large sectors and industries (e.g. textiles industry) where foreign revenue is critical for survival and employment (ibid). The needs of telecom equipment companies are often overlooked in these occasions. The latest outcry from Chinese telecom equipment vendors comes from ZTE’s President Hou Weigui, who in a recent interview in Financial Times demanded that the Chinese government increases its efforts in protecting domestic telecom equipment vendors (Dickie, 2005). Mr. Hou criticized the Chinese government’s telecom policies and claimed that not enough has been done by the government to support and develop local equipment makers (ibid).

5.2.5 Global strategy overview

There are four broad global strategies usually implemented by companies; (1) Porter’s generic global strategy, (2) Global strategies focusing on integration and responsiveness, (3) Total global strategy and (4) Transnational strategies.

Rugman and Hodgetts (2001) have conducted a study on the global strategies of some large multinational enterprises, using the International Management Strategy Matrix which incorporates ideas from the second type of global strategies (Figure 21). Several of the major telecom equipment providers (Nokia, Ericsson, and Nortel) were included in the study and the authors concluded that Nokia and Ericsson, as well as Nortel to some extent, are implementing truly global corporate strategies. By emphasizing on technology innovations and clever partnership solutions, Nokia and Ericsson are able to maintain a successful Quadrant 1 strategy. The authors further point out that compatible telecom standards worldwide will sustain the viability of this global strategy in the long term.
It is fairly reasonable to assume that Huawei and ZTE are keen to adapt this global strategy due to the demonstrated successful implementation by Ericsson and Nokia. But considering these companies’ China-centric characteristics and the substantial government influence, Huawei and ZTE’s current global strategies follows to a large extent the patterns of the *total global strategy*. The *Total global strategy* is based on three components or stages:

1. Developing the core strategy
2. Internationalizing the core strategy
3. Globalizing the core strategy

Both companies have a clear core strategy of customer focus and providing high quality products and solutions for a competitive price. Huawei and ZTE have, unlike certain large Chinese conglomerates or the Korean *chaebols*, stayed away from diversifying its corporate portfolio into many different industries and sectors. The core corporate strategies are then internationalized and globalized through geographical expansions, while the essential corporate values of R&D focus and foreign partnerships are still thoughtfully preserved and continuously refined.

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**Figure 21: International Management Strategy Matrix, including the positions of some of the studied multinational companies. (Rugman & Hodgetts, 2001, p 337)**

<table>
<thead>
<tr>
<th>National Responsiveness</th>
<th>Economic Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Coca-Cola</td>
</tr>
<tr>
<td></td>
<td>Disney</td>
</tr>
<tr>
<td></td>
<td>Saatchi &amp; Saatchi</td>
</tr>
<tr>
<td></td>
<td>Matsushita</td>
</tr>
<tr>
<td></td>
<td>IKEA</td>
</tr>
<tr>
<td></td>
<td>Nokia</td>
</tr>
<tr>
<td></td>
<td>Ericsson</td>
</tr>
<tr>
<td>High</td>
<td>3. Procter &amp; Gamble</td>
</tr>
<tr>
<td></td>
<td>Nortel Networks</td>
</tr>
<tr>
<td></td>
<td>P&amp;O</td>
</tr>
<tr>
<td></td>
<td>4. Philips</td>
</tr>
<tr>
<td></td>
<td>Unilever</td>
</tr>
<tr>
<td></td>
<td>Kingfisher</td>
</tr>
</tbody>
</table>
Huawei and ZTE are not pursuing global cost leadership or diversification, since it is not part of their core corporate strategies. Thus they are not following Porter’s generic global strategies. The Chinese companies can not copy the successful implementation of the global strategies focusing on integration and responsiveness, due to their current confinements and the distinctive features of the Chinese market and society. The transnational strategies of serving both global and local needs are neither possible nor desirable for Huawei and ZTE at the moment; both companies are still at an early stage of globalization and the international scope of employee structure as well as business operations is far from sufficient to implement such complex transnational strategies.

“Telecommunications is becoming more and more international. If the company wants to survive, it has to do business internationally.”

- Edward Deng, President Europe at Huawei Technologies

(Harney, 2005, p 15)

The high degree of globalization within the telecom equipment industry has facilitated the global drive and expansion of both Huawei and ZTE – partly for market expansion, and partly for survival. The implementation of the corporate globalization by these two large Chinese enterprises has demonstrated unique qualities due to the specific characteristics of China-centrism, strong government influence and robust R&D focus. These core corporate properties have gradually been internationalized and globalized through partnerships with foreign multinationals in conjunction with an international expansion of sales and R&D. The Chinese companies’ international R&D operations are in themselves divided into research centers situated in mainland China and those established in developed countries; (1) the R&D facilities in China take advantage of the vast pool of relatively low-cost graduates and engineers in the country, and (2) the R&D facilities in developed countries act partly as listening and communication posts, partly as access nodes to the experience and know-how of locally available engineers. All these pieces form together the complex puzzle of the Total global strategy employed by both Chinese telecom equipment vendors (Figure 22).

R&D centers both within and outside China’s borders cooperate together in product and technology innovation and development, utilizing best practices and processes adopted from experienced foreign companies. These products are then introduced on the global stage, in order to achieve market expansion in both developing and developed markets. Participation in
international standardization bodies and cooperation with renowned foreign companies provide legitimacy to the Chinese companies, especially in developed markets where the margins are higher and profitability more lucrative.

Figure 22: Proposed framework of Huawei’s and ZTE’s globalization strategies.
6 CONCLUSIONS

This thesis aims to be one of the first exploratory studies that examine, from a purely corporate strategic point of view, the global strategies of emerging transnational companies based in a developing country. Specifically, the purpose of this study is to explore the globalization process of Chinese enterprises and the corporate global strategies these companies pursue, in order to uncover distinct qualities and insights that bear implications for partners, competitors and policy-makers in developed economies. The study has focused on the worldwide telecom equipment market and the two largest Chinese companies within that sector – Huawei and ZTE.

The existence of global corporate strategies is enabled and facilitated by truly globalized underlying markets. A comprehensive investigation of the worldwide telecom equipment market using Yip’s 19 globalization drivers demonstrated that the studied market and industry is indeed dominated by forces for globalization. In fact, it can be stipulated that the global characteristics of the telecom equipment market have strongly pushed the Chinese companies toward internationalization and globalization.

By interviewing high-ranking executives of Huawei and ZTE, as well as industry experts and professors, an overview of both companies’ global corporate strategies was pieced together. With the support of a wealth of secondary sources and industry data, Huawei and ZTE’s corporate vision, mission, globalization process and various components of their global strategies were identified and thoroughly analyzed. Four noticeably unique qualities were uncovered after scrutinizing the globalization processes of the two companies; (1) China-centric: Both Huawei and ZTE rely on the large Chinese telecom equipment market and the employee structure of their international affiliates are still dominated by Chinese nationals, (2) R&D focus: Both companies invest a considerable amount of capital (more than 10% of annual revenue) and human resources (30-45% of all employees work within R&D) into research and development of new products and technologies, since the telecom equipment business is highly technology intensive. The strong R&D focus is also reflected in these two companies’ internationalization pattern of first establishing R&D sites, followed by sales offices in a second phase, (3) Foreign partnership: Huawei and ZTE have actively sought cooperation with renowned foreign companies in areas ranging from management practices to technology research. These partnerships offer the necessary experience and expertise in the
globalization process, as well as providing legitimacy for the Chinese firms in developed markets. Both companies are active participants in numerous international standardization bodies as well, (4) **Government influence:** Government influence and impact have affected Huawei and ZTE in both positive and negative ways. The two companies were founded and currently headquartered in the city of Shenzhen, in southern China. Since the inception, these companies have benefited from the fact that Shenzhen was the first Chinese city to be exposed to economic liberalization and openness. Huawei and ZTE’s flourishing development in the recent decades have also been supported by their strong ties to the Chinese government and military. But in the age of globalization, these companies are no longer satisfied with mere financial assistance and guarantees provided by the Chinese government; instead they have outspokenly demanded a better protection of China-based firms in the domestic telecom equipment market where foreign companies such as Ericsson and Nokia still retain a large market share.

It can be postulated that the overall corporate global strategies pursued by Huawei and ZTE resemble to a large extent the *total global strategy* framework. The main concept of *total global strategy* is to internationalize and globalize a company’s existing core corporate values and strategies. Both Huawei and ZTE have retained the core strategies of R&D focus and mutual partnerships in their globalization efforts. Instead of only recruiting the best graduates and experienced engineers in China, both companies have set up R&D facilities in strategic regions worldwide in order to attract foreign expertise to boost R&D operations. In this way, Huawei and ZTE are able to benefit from both low-cost development in China and advanced quality research in developed countries. Partnership-building has grown to an international scope as well, where cooperation with renowned foreign companies in strategic business and technology areas has become a natural part of these companies’ organizations. In the global telecom equipment market, Huawei and ZTE intend to compete on price, as well as product and service quality. This is also an extension of the companies’ domestic strategies of avoiding mere cost leadership. By following the three phases within the *total global strategy* framework, Huawei and ZTE have gradually and successfully internationalized and globalized their core corporate values and strategies.

**Managerial implications**

Knowledge and insight in the globalization process and corporate global strategies of emerging Chinese transnational companies should prove invaluable to both partners and
competitors. Especially, the globalization of large Chinese enterprises bears practical
everence and implication for companies and governments in developed countries. Firstly, it is
important for the competitors within the telecom equipment sector to familiarize with the
global aspirations and the ongoing globalization efforts of Huawei and ZTE. Both companies
have successfully penetrated the international market and achieved market share in both
developing and developed economies. The strong R&D focus of Huawei and ZTE should also
be noted by their industry competitors, since these two Chinese firms are not merely pursuing
cost and price leadership in the international market. These companies aim to compete on
price, product innovation and service quality.

Still, companies like Ericsson, Nokia, Nortel and Cisco enjoy a lead in terms of technology
and product development. For their part, it is important to recognize the globalization progress
of Huawei and ZTE by actively seeking win-win partnership opportunities with the Chinese
firms. One such cooperation has already taken place between Ericsson and ZTE in the area of
TD-SCDMA – the Chinese standard of third-generation (3G) mobile networks. The timing for
cooperation is mature since the Chinese companies are eager to forge foreign partnerships to
boost their reputation and legitimacy in developed markets; in the meantime foreign
companies are keen to benefit from the experience and expertise Huawei and ZTE possess in
the Chinese market. Cooperation with emerging Chinese transnational companies in certain
fields and markets can facilitate mutually beneficial partnerships, but telecom equipment
firms based in developed economies should still to a large extent globalize their own
operations, in order to increase efficiency and bring down operational cost. Only then, can
they effectively compete with the emerging Chinese companies on the global stage.

For government agencies and policy-makers in developed countries, it is important to be
aware of the emerging globalization trend among large Chinese enterprises. Chinese outward
foreign direct investment (FDI) would certainly increase dramatically both in scope and size
in the near future. Governments in developed countries should prepare for this anticipated
development and increase the efforts in promoting the image and investment atmosphere of
their countries of origin by providing a platform for partnership-building between Chinese
companies and companies based in their own countries (a practical case involving Invest in
Sweden Agency can be found in Appendix I).
DISCUSSIONS

How generalized can the results of this thesis be? There were only two Chinese companies included in the study and both of them are active within one industry (telecom). Well, the most interesting element of their corporate global strategies is the indication of a new type of globally competitive enterprises based in developing countries. No longer are these companies pursuing mere cost and price leadership, they are adopting Western-style best practices and know-how to compete on product and service quality, as well as on price.

Until now, transnational corporations based in developed economies have dominated the global markets in almost every aspect (revenue, geographical reach, famous brands), while developing countries have acted as destinations for outsourcing and low-cost production.

“Firms headquartered in regions containing a small fraction of the world’s population have comprehensively dominated the global business revolution. The high-income economies contain just 16% of the world’s total population. They account for 91% of the world’s total stock market capitalization, 95% of Fortune 500 companies, 97% of the FT 500 companies, 99% of the world’s top brands and 100% of the world’s top 300 companies by value of research and development (R&D) spending.”

(Nolan & Zhang, 2002, p 2092)

The analysis and results of this thesis display a transformation of the globalization terrain. Corporations based in developing countries are successfully penetrating markets worldwide with IT services and telecom products. This is a huge leap forward from simply flooding the global markets with cheap commoditized goods.

It is time to recognize the emerging global companies from developing countries such as China and India. They have not been a part of the world stage for so long and are now eager to acquire global competitiveness. These companies are equipped with unprecedented government support and an enduring spirit for achieving success. There is even a hint of national pride involved; Huawei (华为) in Chinese can be interpreted as “for China”, while ZTE (中兴) can be loosely translated into “revitalizing China”.

The achievements of these companies on the world stage are not limited to developing markets or insignificant customers in developed markets. In November 2005, Huawei signed
breakthrough deals with first-tier operators Vodafone and British Telecom in key strategic product areas (Karlberg, 2005b; Strandberg, 2005). The company’s revenue has maintained a growth rate of 20-40% in the past several years and its estimated revenue for 2005 will amount to half of that of Ericsson’s, making Huawei a recognizable force in the international telecom arena (Strandberg, 2005). This development is remarkable since Huawei’s revenue just one year ago (in 2004) corresponded to less than a quarter of that of Ericsson’s (ibid).

The rapid growth and accumulated international experience in the past several years have facilitated companies like Huawei and ZTE to intensify their globalization of sales and operations, by more aggressively targeting developed markets. According to Shanghai Daily (2005), Huawei’s President Ren Zhengfei expects the overseas business to account for 70% of the company’s total revenue by 2008. ZTE has a similar goal of generating half of the revenue from overseas markets by 2008, from the current 21.5% (Ji interview, 2005).

Paradoxically, the global success of these two Chinese telecom equipment companies will mostly depend on their success at home – the domestic Chinese telecom equipment market. According to the Chinese Ministry of Information Industry (2005), the numbers of landline and mobile telephone users in the country have reached 348.6 million and 383 million respectively. The speedy increase of subscribers and revenue generated from telecom-related services in the country is creating great potential for all large telecom equipment vendors, making mainland China strategically the most important market in the world. The development of that particular market will be hard to predict since the decision-making role of the Chinese government can tip the scale in one way or another.

Future research
This paper has briefly touched upon the managerial implications for the Chinese telecom companies’ foreign competitors and partners. Future studies could focus on the interplay between Chinese companies expanding globally and foreign companies expanding into the Chinese market. The complex relationship within the technology sector makes the awkward interaction between a partner and competitor relationship even more interesting. This study may pave the way for a new category within global strategy research where the strategic relationship between established transnational corporations and emerging global companies from developing countries could be studied and discussed.
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APPENDIX I: CASE – INVEST IN SWEDEN AGENCY

The content of this section aims to demonstrate the practical application and usability of knowledge and insight in the globalization strategies of Chinese companies. A brief description of the current strategies and ongoing activities carried out by Invest in Sweden Agency is provided, followed by suggestions and recommendations for how the Swedish government agency should improve its framework for technology intensive Chinese companies with global ambitions.

AGENCY PROFILE

Invest in Sweden Agency (ISA) is the government agency assisting and informing foreign investors about business opportunities in Sweden. The investment promotion agency provides information and assistance to companies planning to establish or expand business operations in the country, free of charge (Invest in Sweden Agency, 2005b).

ISA is able to offer assistance in the following areas;

- Comprehensive information on business opportunities in Sweden, key business sectors and the Swedish economy.
- Tailor-made information and practical advice on how to proceed when setting up a business in Sweden.
- Assistance in finding and arranging visiting programs for company representatives to the most suitable locations in Sweden.
- Support in finding companies for possible joint ventures or other forms of cooperation.

(ibid)

In an international benchmarking study conducted by the World Bank and the U.K. consulting firm GDP Global Development (2005), Invest in Sweden Agency was ranked as the best performing investment promotion agency overall, both on the global and national levels. The agency is praised for its qualified personnel (80% have business and industry experiences) and the organization’s result-oriented approach.
CHINA – A PRIORITIZED MARKET

Since the establishment of the agency in 1998, the People’s Republic of China has gradually become an important target country for ISA. With the increasing interest among Chinese companies to invest and expand internationally, particularly within developed markets, ISA has continuously increased and solidified its efforts in China through the years. In December 2002, the agency launched its China office in Shanghai, the business and commercial hub of China. The strategic importance and investment potential of Chinese companies to Sweden is underscored in ISA’s latest annual reports (2004, 2005a) and by Kai Hammerich (Myrsten, 2005), the Director-General of the agency.

![Figure 23: Compiled figure of the number of Chinese investments in Sweden, 2002-2005](ISA, 2005; Chen telephone interview, 2005)

According to Eddie Chen (telephone interview, 2005), ISA’s Chief Representative in China, the agency’s operations in the country have grown from two people in the beginning to eight in 2005, after having set up two affiliate offices in Beijing and Guangdong respectively. Chen (ibid) pointed out the substantial increase of the number of Chinese investments in Sweden as a result of the agency’s active efforts and the correct timing of establishing an office in China (Figure 23).
ISA’S CURRENT STRATEGIES AND ACTIVITIES IN CHINA

The workload of Invest in Sweden Agency’s Chief Representative in China, Eddie Chen, is divided into 20% of general and administrative activities and 80% of sales and marketing activities (Chen telephone interview, 2005). According to Mr. Chen, this division of time and resources reflects the sales- and result-oriented approach of the entire agency. The sales and marketing portion involves attending events and exhibitions, as well as handling media relations and maintaining relationships with partners (e.g. China’s Ministry of Commerce, provincial bureaus of economic cooperation) and professionals (e.g. consultants and lawyers).

Through continuous and dynamic contacts with local government agencies and authorities, ISA’s China operations have currently accumulated data and profile information of more than 300 Chinese companies that may have an interest in international expansion and investment. The interactions with these companies are facilitated through a series of seminars and match-making services, which take place several times every year (Xue interview, 2005). According to Shelley Xue, ISA’s Investment Promotion Officer in the Shanghai office, the result-oriented approach pushes the organization to “proactively seek Chinese companies” with suitable profile and potential, in order to generate further interest and action through seminars and/or one-on-one meetings.

For Chinese companies that hold a relatively high level of interest in expansion in Europe in general, and in Sweden in particular, a targeted meeting is usually set up between the company executives and ISA’s personnel in China. Such a meeting generally consists of discussions surrounding the company-specific strategies of internationalization and the opportunities/competencies that Sweden can provide (Chen telephone interview, 2005). Sometimes, brief introduction of the investment environment in Sweden and successful examples of Chinese companies already established in Sweden are also included (Xue interview, 2005).

The China office is cooperating closely with ISA’s headquarters in Stockholm, concerning arrangement of visits and reception of Chinese company delegations in Sweden. Feedback from such visits is always collected and personnel in both China and Sweden would under such circumstances work together to meet the demands and concerns of the Chinese companies (ibid).
COMMENTS & SUGGESTIONS

Both Chen (telephone interview, 2005) and Xue (interview, 2005) believe that Chinese outward investment will accelerate in speed and scope in the future, especially in developed countries as Chinese companies’ experience and interest in these markets enhance. Considering the enormous future potential and China’s strategic importance globally, it may be crucial to investigate the strengths and weaknesses of Invest in Sweden Agency’s current strategies and activities towards that market.

Sweden is known in China for its high environmental awareness, beautiful nature scenery and advanced technology coupled with high taxes and living expenses (Lundberg, 2005). The general awareness of Sweden and the investment opportunities in the country is still relatively limited in China, according to Eddie Chen (telephone interview, 2005).

The findings in this study surrounding the two largest Chinese telecom equipment vendors’ globalization strategies indicate several specific characteristics of technology intensive Chinese companies with global ambitions, which should carry significance towards ISA’s investment promotion strategies and activities in the country;

- **China-centric**: China is a huge home market for Chinese companies, where they will derive a substantial portion of their annual revenue for the foreseeable future. ISA needs to identify and analyze, in conjunction with company executives, the benefits and advantages of investing in Sweden, in comparison with investment in other developed countries or not investing overseas at all.

- **Focus on R&D**: Sweden is most attractive for Chinese companies within the technology sector to set up research and development activities. Whenever appropriate, it is important for ISA to emphasize the advanced technology know-how in Sweden, as well as the vast pool of experienced engineers and talented graduates available in the country.

- **Foreign partnerships**: Chinese companies are eager to forge partnerships with foreign companies in their internationalization process. ISA should actively identify and notify possible partnership connections and win-win situations
between Chinese and Swedish companies. A database of Swedish companies’ international ambitions and needs could be set up, which is then matched with the database of Chinese companies maintained by ISA’s China office. An eventual cooperation with Swedish Trade Council in this matter may also be conducive.

- **Government influence:** Healthy relations with local and national government agencies/officials in China are necessary, yet they should not occupy too much of ISA’s resources or time. As Eddie Chen (telephone interview, 2005) points out, the role of the Chinese government in international investments will gradually shift from today’s decision-maker to that of an “influential supporter” in the future. By merely updating and acknowledging the current macroeconomic and political situation in China, it will be sufficient to be able to adapt and shape the agency’s future strategic direction in accordance with the macro environment. The current cooperating activities with government ministries and regional economic bureaus should naturally be maintained and fostered, in order to continuously enrich the company database maintained by the China office.

- **Global strategy:** Many Chinese companies, even state-owned enterprises, have started operating in a profit-oriented fashion. According to Shelley Xue (interview, 2005), Chinese businessmen have grown increasingly aware of the concepts of value-chain and brand-building in recent years. The findings of this study suggest that both Huawei and ZTE are pursuing the *Total Global Strategy*, where the globalization process involves internationalizing and globalizing the company’s core strategies. It is thus important for ISA’s Chief Representative and staff to present material and key discussion points that are well-aligned with the core company strategies. An analysis and mapping of the companies’ core values and strategies are in other words essential in the initial stages; all the ensuing interaction – including meetings and delegation visits to Sweden – should never diverge from these identified core strategies.
An overview of recommended ISA activities is provided in Figure 24; these activities are based on the central ideas and concepts presented above. Clear illustration of the activities division between the Stockholm and Shanghai offices are provided.

Figure 24: Proposed framework of activities for Invest in Sweden Agency’s operations targeted at Chinese companies. The activities are separated geographically for the Stockholm and Shanghai offices.
APPENDIX II: INTERVIEW WITH JEFF JI (季成)

1) Tell me a bit about your own background and your current position (education, career path, etc.)

Jeff Ji, Chinese national. I have worked for ZTE for two years; before that, I worked at Qualcomm's China headquarters in Beijing. At Qualcomm, I was a specialist in CDMA technology and was involved in product and technology development. Currently at ZTE, my work has focused on sales and marketing. My role involves business development for a wide arsenal of product areas, ranging from fixed to wireless, 2G (GSM) to 3G (WCDMA).

2) How long ago did ZTE establish its office in Sweden? How many employees (Swedish, Chinese or other nationalities)? Location and size.

ZTE established its Sweden office at Kista Science Tower in March-April this year. The ZTE Office in Sweden covers the entire Nordic region and currently employs 15 people, of which half are Swedish nationals recruited locally. The rest is dispatched from ZTE's headquarters in Shenzhen, China.

3) What are the main goals and ambitions for ZTE’s Sweden operations? Partnership? Conquering the Swedish market?

The simple purpose of ZTE's Swedish presence is to increase sales in the Nordic market. Naturally, in order to sell extensively within a reasonably short period of time, ZTE needs to form partnerships with local actors, ranging from business development, marketing aspects to engineering and after-sales services, as well as channel-partners. Regarding product research and development, ZTE Wistron is the development wing of the company's Swedish presence.

4) Tell me more about ZTE’s development; both in size, product line and geographical expansion. How did ZTE go from a local company in Shenzhen, China to a telecommunications company with global reach today?

A company must have international business in order to be a truly international company. The globalization path of ZTE started with the first international deal in Pakistan in 1999. I believe that there is not a huge difference between a local or international business in terms of corporate culture. The norm of corporate culture is about respect for the customers, respect for
the employees, and attain the right attitude and professionalism, and commitment to the market.

Naturally, certain elements of a corporate culture must be adapted when the business truly becomes international. For example, when a company ventures into a new market, it must respect the local traditions, customs and religious beliefs. I think that this component is universally understood and practiced by all major international companies.

Whether a company is local or international, the core values of the company should not change.

5) Tell me about the Globalization-Location strategy of ZTE (Global Success from Local Wisdom). How does ZTE imagine the interplay between global and local? What part does the Swedish operation/office play in this strategy?

The essence of the Globalization-Localization strategy is quite simple; the tricky part is how you implement such a strategy. Currently, we have presence in 60-70 countries (including both developing and developed markets on all continents of the globe) and our products have penetrated these national markets, thus providing an extensive worldwide coverage.

In order to implement and manage such an international operation, ZTE tries to optimize the business processes to efficiently allocate resources. We also believe that it is of great importance that the staff in national offices consists of a combination of personnel dispatched from China HQ and locally recruited employees with local knowledge and know-how. This mix would smoothen the transitional process of entering a new national market. All our national offices worldwide uphold that combination in terms of staffing (usually the percentage division between the two groups is 50-50).

The Swedish presence is a part of our globalization strategy; we perceive the country as very developed, especially within the telecommunications field. Even so, ZTE believes in its own particular competence in this advanced market, as well as in its ability to grab this big opportunity and achieve market share in Sweden. The Nordic region as a whole is an important market overall; not only for the purpose of building reference cases for ZTE, but also drive ZTE to further increase its professionalism and expertise by competing in the advanced Nordic market.
The requirements of the Swedish customers and operators are similar to those in other developed countries, so this is a good place for ZTE to develop itself. The experience and information sharing process is a critical part of ZTE's daily operations. We have in place well-functioning systems and mechanisms to facilitate that kind of knowledge transfer, as well as permanent teams of staff travelling around Europe to support the operations and activities in different countries. In other words, we have basically the same group of people and expertise to conduct a certain work in different countries. This makes the information sharing process a natural part of ZTE's daily work.

6) Tell me about ZTE’s partnerships and consulting services with established foreign international companies in terms of developing management practices and corporate strategies?

ZTE is currently in talks with several local Swedish companies [ZTE and Switchcore – from an newspaper article] in terms of cooperation within different fields and aspects of our company's business. The ongoing discussions include cooperation in the fields of product and technology development, after-sale services and distribution channel.

Concerning the development of operations and management practices in China, ZTE has standing partnerships with PriceWaterhouseCoopers and Ernst Young in the field of auditing, as well as with quite a few consulting firms. There is a varying degree in terms of partnership, certain cooperation may be project-based (e.g. with consulting firms) and certain partners have global coverage where cooperation is on an international basis (e.g. with PriceWaterhouseCoopers).

7) Have you encountered any difficulties in establishing an operation in Sweden, or any other foreign country for that matter? Specify, please.

There are always difficulties when entering a new market. For example, there are a lot of things that you are first unfamiliar with, which you have to overcome and get familiarized with. As a company, you must be patient and really know what you are looking for from the beginning. If you do that, then the local operations can develop steadily. It takes time for a company to adapt to a local market, and it takes time for the local market to accept the new actor. ZTE is definitely on the right track with its Swedish presence and it is in line with the overall global strategy of the company.
The planning phase of the current Swedish office lasted one year; during that time period, ZTE conducted feasibility and market studies. Prior to the opening of the office, ZTE had already signed some deals here. Then we felt that this was the right moment to really grab the opportunity presented in the Nordic region, in order to support and attract local customers in a more manifested way.

ZTE has been in Europe for 3-4 years, with offices in Paris (the head office for Western Europe), London, Munich, Athens, etc. These are pure sales and marketing offices. In terms of R&D, ZTE has several joint labs with its European customers and academic institution, whereas ZTE Wistron in Sweden is wholly-owned.

8) **ZTE has forged a partnership with Ericsson in the area of TD-SCDMA, while on other fronts ZTE and Ericsson are fierce competitors. How does ZTE balance that delicate relationship?**

In the Nordic market place, ZTE considers Ericsson as a competitor, as well as globally. Ericsson has a strong position in ZTE's home market - the Chinese telecom market. Now ZTE has entered Ericsson's home market - Sweden. Each of the telecommunications companies worldwide possesses their own product strategies and technology strengths, where they strategically prioritize and allocate more resources.

ZTE is very strong in the technology area of CDMA, meanwhile Ericsson chose for strategic reasons to close down their CDMA operations; instead they chose to cooperate with us. TD-SCDMA is a standard/technology developed in China, Ericsson is also familiar with the fact that ZTE is strong in this field - I would say that both technically and market-wise, ZTE was the best choice for Ericsson to partner with.

The initial contact and the negotiation processes were entirely handled at ZTE's headquarters in China. On the other hand, some of our partnerships and alliances are initiated by our worldwide offices (e.g. ZTE's alliance and cooperation with French telecom company Alcatel was initiated by ZTE's office in France).
9) How do you perceive ZTE's future 3-5 years from now, in terms of global business?

ZTE's future is closely linked to trends in the telecommunications industry; e.g. ZTE is actively aligning the corporate strategies with the current trend of convergence.

ZTE has also transformed into more of a service company, instead of just focusing on hardware manufacturing.

The company's future does not only rely on trends and developments in the telecom industry, but it is also heavily dependent on the future of the Chinese economy. Currently, we have a big home market to leverage and we possess a cost advantage. I believe that the Chinese economy will keep the current pace of economic development (7-9% annually) for the next five to ten years, which will act as a big growth driver for ZTE as a company.

As the globalization trend continues, I believe that we will see more consolidation within the industry, a trend already visible in the recent years. A company must be able to leverage its technological and strategic strength to stay competitive globally. I see a bright future both from a macroeconomic point of view and from company-specific factors.

10) ZTE is partly listed on the Hong Kong and Shenzhen Stock Exchanges and some of the biggest shareholders are well-known international asset-management firms (e.g. Morgan Stanley, Swiss Bank). Have they appointed anyone to ZTE's board of directors? Is there any international/foreign influence on the strategic decision-making of ZTE?

Naturally, these large asset-management firms have appointed several members to ZTE's board of directors, but I am not sure if they are foreign-nationals or ethnic Chinese. Anyway, they are appointed by these companies.

11) What do you think of ZTE's owner structure in the future? Will more percentage of ZTE become publicly listed? Or will the company still receive heavy influence from the Chinese government?

Actually, in terms of management practices within ZTE, they are very much aligned with standard international protocol for any publicly listed companies. For the unlisted part of ZTE, half of it is owned by the employees, the other half is owned by holding companies affiliated with the Chinese government.
12) Has the Chinese government played an active roll in ZTE's globalization push?

Financing and financial aspects are a major issue within the telecommunications industry in terms of competitiveness - financial strength is vital for closing deals. Operators in need of financing are not all based in developing countries; large operators in developed markets may sometimes be in need of such financial mechanisms as well. The Chinese government is very actively promoting Chinese export growth, especially in the area of high-tech products. So, in terms of such kinds of financing demands and needs, ZTE has received financing assistance from the Chinese government as well as financial institutions in China (this is of course purely based on market conditions and mechanisms). ZTE thus can tell its potential customers that the company has the strength and capability, considering the strong backing of Chinese governmental financial institutions, which is a helpful and important factor for closing major deals - simply a competitive advantage.