

Identifying Performance Factors in a Chinese EIJV

An Assessment of Changing Strategic Modes

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Thesis Master of Science in International Business

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This thesis was written as a part of the Master of Science in International Business program at NHH.

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i Abstracts

Elkem Materials is in an Equity Joint Venture with Erdos in Inner Mongolia producing microsilica for the global market. Elkem Materials is considering several options for their future strategy in China. The business environment of the Chinese market is very different from those of any other emerging market, or any other market for that matter. Knowledge of these differences may create new opportunities for foreign companies such as Elkem Materials. Opportunities in four different strategic modes are considered in a performance perspective and for a set of identified factors of importance to Elkem Materials. These factors are affected by both the external and internal environment Elkem Materials is operating in.

“Do for your business what makes sense in China today,
not what might have made sense for some other company years ago.”
Dan P. Harris, Harris & Moure Law Firm 2006

ii Acknowledgement

There are a great number of people to thank for assisting and inspiring me when it was most needed to finish this report and thesis.

First of all, the initial motivation to even start a full time study after several year in the Oil and Gas- and later Shipping industry, has been my two youngest loving twin daughters, Andrea and Johanne, 11 years old. We have endured some hard times the last few years, but they are soon at an end.

Thanks to Professor Paul Gooderham for taking the time to find the best advisor for the challenge presented by Elkem Materials at a time Yun Zhu and me were discussing other approaches for our initial thesis idea about a China-Norwegian business perspective.

For patience far beyond what any student can expect, my deepest gratitude goes to Professor Svein Ulset for accepting to be our advisor on short notice, and later accepting me again, after I had a forced long leave from Norway.

The one I have most to thank for is of course Yun Zhu, my very good friend and classmate. We have worked together on many occasions during our studies and when we first started to discuss a cooperation on the thesis in 2007.

Many thanks to Tomas Tveit, friend and fellow member in the NHHS' it.group, His experience as exchange student in Beijing were very valuable for some final discussions around important details in this report.

Special thanks to Norunn Johanne Økland at the International Office at NHH and Inger Midttun at the exam office, who's both have stretched borders to enable me to finish this thesis and MSc degree. And to very close friends from my NHH network who have provided me housing in my previous hometown when I needed it. No names mentioned, no names forgotten.

Thanks a few employees at NAV, who have found ways in a complex structure of Norwegian laws and regulations that enabled me to finance my MSc degree despite of external obstacles from the second semester and onwards.

And most important: To write a good report, one need good information. Without the kind cooperation from Jon Meland, Erik Bergsmo and Ottar Lærum it would have been

impossible to have this challenging and very interesting topic to work with. Hopefully the delay is forgiven after the new information of possible future modes in China were introduced to me early December 2009. Their contributions will hopefully give the company valuable input when the important strategic decisions are made on Elkem Materials' future in China.

Anders Kleppe

Bergen, June 2010.

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1 Introduction

Elkem Materials Co Ltd. (Elkem M) and their parent Elkem AS (Elkem) is facing an increased competition on the global market of microsilica mostly from new entrants and competitors in China, but also some increased production in Europe, Middle-East and Africa. The production of microsilica is assumed to have increased by 90 % the last year (Figure 3) during the financial crisis. The demand situation seems to remain unchanged and hence the demand/supply ratio creates a fierce price competition. And was it not for long term supply contracts, Elkem M might have been forced to join the competition and reduced prices of microsilica. Analysts have estimated that the firm might have to reduce their prices as much as 18-20% in the near future to keep their global market shares of approximately 33-35% if the demand is unchanged¹.

The perspective of the report is performance for Elkem M and Elkem regards to their China operations. The aim is to evaluate performance potential in four different strategic modes. The starting point is the present model with their 50/50 Equity International Joint Venture (EIJV) with Erdos Metallurgy Co Ltd, Inner Mongolia (Erdos). The notion performance includes the concepts of long term return of investments and strategic position.

The report is considering four strategic modes, ranging from Market Agreement (MA), EIJVs, Shanghai Stock Exchange (SSE) registered company to WOFE mode, and considerations on how each of the modes might change the current performance of Elkem M's China operations. Considering this wide range of modes, from non-equity to equity modes from both ends of the scale of commitment and control, requires a broad approach to assess the possible potential outcomes of each of the modes. At the end of the day it is the actual long term total return, less all costs, that matters. Strategic considerations should, however, be made on a regular basis as explained in chapters 0 and 5. Though some strategic variables stay reasonably stable over time, others will need constant considerations and monitoring, especially in the Chinese business environment which might seem to be highly volatile and competitive.

The most recent information provided by Elkem M early December 2009, led to a redesign of the structure of this report.

¹ Information from Elkem December 2009

Furthermore, there have been major changes in the parameters determining opportunities, options and risks for Norwegian companies investing in China only the last few months. Norway and China is due to sign a trade agreement and this might open opportunities for Elkem and along with these opportunities, other challenges than this report initially where intended to emphasise.

This chapter will in the following introduce the problem statement as originally described by Jon Meland spring 2008 and further, my observations done in phone interviews and e-mail communication with Erik Bergsmo and Ottar Lærum. Let there be no doubt that Elkem possess more than sufficient competence to assess these challenges within the present organisation, but the interviews conducted with the three have revealed indications to where added focus and efforts could be put to possibly give Elkem M some information on where to re-assess their current situation The latter, emphasising that this report is based from an outsider viewpoint and therefore the insider perspective should by no means be excluded. Last the rationale and purpose of the report is outlined.

Chapter 2 is describing the current situation for Elkem M in China to picture the information received from various sources, included information provided by Elkem M and an overview over some of the inter-connected companies in the networks in Inner Mongolia. Next, in chapter 3, the theoretical framework and considerations used to solve the problem statement are introduced including the tool used for the analysis in chapter 5. Some basic considerations are put into the generic frame briefly mentioned in chapter 1.2 merely as a mean to enable a better foundation for the analysis tool. Chapter 4 introduce and discuss elements important to consider in the analysis. The last subchapter in chapter 4 includes four real cases, two success EIJVs and two ‘failed EIJVs. To what extent one of them can be described a failure, is another matter. The PESTEL analysis is conducted in chapter 5 and will assess 6 strategic dimensions using a SWOT analysis for each dimension. Chapter 6 follows with discussion based on the SWOT framework and chapter 7 summarising based on the previous analysis and discussions. The latter chapter is a short executive summary. Last, in chapter 7 limitations of this report and suggestions for further analysis is given.

The performance perspective is considered across the four strategic modes that limits the scope of the report.

1.1 Problem Statement

Based on the information given by Elkem and Elkem M and information gathered from other sources, this problem statement aim to identifying variables that might have special relevance to the challenges Elkem M has identified as their current main concerns in their Chinese operations. This information is put in a context where investment and operational safeguarding options are considered in three different strategic modes, and compared to Elkem M's current strategic mode, regards to the performance perspective, i.e. factors that might be important to give special attention in a strategic evaluation today, to increase the probability for long term future maximization of performance and profits.

The first strategic mode, BM1² is the current structure in China, which is to continue the current ownership in the Erdos EIJV (Erdos-Elkem) and further invest in the company, however accepting that Erdos becomes Elkem M's largest supplier. BM2 contain two parts. First, Elkem M changes the ownership structure in the EIJV by selling shares and finally withdraws from Erdos-Elkem. Second, Elkem M negotiates an MA with Erdos and search for other smaller EIJV partners (melting plants) in other provinces of China. Two more option is suggested as possible strategic modes in the future for Elkem M in China, an SSE registered company, BM3, and last a WOFE melting plant and microsilica production, BM4. In both the latter strategic modes one or several MAs is included as part of the strategic mode.

The questions Elkem M request evaluated are: How to implement a Western strategy mindset in Erdos-Elkem; How to utilize Chinese flexibility and adaptability; How to best lobby in China; How to protect their Intellectual Property Rights (IPR) in China and last consider the effect of the parent companies size differences. The latter, accepting that Erdos becomes Elkem M's largest supplier, has been expressed as a major concern to Elkem M due to fear that the size difference might be a problem for their competitive advantage over time. Partner size dissimilarities can be both a pro and con in a transaction cost view, Zhu. In this report the analysis is brought a step further, identifying other important partner dissimilarities and how they may improve and decrease performance.

² BM refers to Business Model as used by Zhu (2008) – All refernces to Zhu (2008) are from here and onwards referred to as Zhu

During the later communication some further issues has been determined to be of possible interest for Elkem M to study closer, i.e. the technical quality of the silicafume³ and the challenge with different firm cultures in Erdos and Elkem. Related to the latter, it has been mentioned that the quick decisions made by Erdos in Erdos-Elkem is a challenge to Elkem and Elkem M. As the size dissimilarities between the parents owners of Erdos-Elkem have been addressed as a possible problem to Elkem M in the EIJV, this issue is addressed by also considering other partner dissimilarities and their possible impact on the Erdos-Elkem performance potential (see chapter 4.5).

The scope of this report is to look at the how performance might change between the current strategic mode, combined MAs and several EIJVs, SSE and WOFE.

The strategic modes of analyse is:

1. BM1 - Continue and develop the Erdos-Elkem EIJV
2. BM2 -MA with Erdos and new partners in EIJVs
3. BM3 - MA with Erdos and start an SSE company
4. BM4 - MA with Erdos and invest in a WOFE

Last, if Elkem M is to invest in one of the lawfully possible WOFE modes, the lack of sufficient educated work force has been addressed as a problem. It is however hard to see how the lack of competent labour can be solved by using the WOFE mode as compared to any of the other modes and this is discussed in particular in chapter 5.3.

1.2 Rationale and Purpose - Performance Perspective

Elkem present their strategy as: *“Elkem pays great attention to strategic positions, change processes and product development, and is constantly realigning its product portfolio towards more customer-tailored solutions and towards business areas with stronger underlying growth.*

Elkem seeks long-term agreements and contracts throughout the value chain from raw materials to customers. This allows its products to be tailored to each customer’s requirements, while providing more predictable financial results.”, Elkem (2010)⁴.

³ Zhu p. 46 has not considered changes in total supply and quality of microsilica in her report.

⁴ Internet reference: Elkem.

After Elkem M indicated a possible new strategic mode in the near future this strategy statement became a natural starting point from where to rearrange the structure of this report and focus on performance, rather than risks. When considering several business models it seems that Elkem's ability to build and maintain relations to external stakeholders and improve internal processes seems to become more important to use a performance perspective, rather than transaction costs. Several partners are involved in Elkem M's operations in Inner Mongolia, from local, regional and central governments, inter-related firms, local communities, customers, etc. and Erdos EPM

The notion 'Performance' is in this report related to Elkem's ability to meet customer requirements as outlined in the strategy statement and to keep its position in the microsilica market, hence sustain an acceptable financial return. Performance is considered as a measure compared to Elkem and Elkem M's competitors in all their markets, thus considering opportunities to perform poorer, or better than the competitors. In a low net profit market environment (i.e. high supply over demand ratio) other factors decide whether Elkem can keep the strategic edge and sustain a long term competitive advantage in the global market.

Orkla Materials is a business unit in Orkla and Elkem is part of this business unit as a wholly owned Orkla firm. Elkem has five core business areas: Solar, Silicon Materials (Elkem SM), Foundry Products, Carbon and Energy. Elkem M is a WOFE affiliate owned by Elkem in the business area of silicon materials and Elkem M is the legal entity with a 50% ownership in Erdos-Elkem. This report is considering Elkem as a parent to Erdos-Elkem and Orkla as the parent of Elkem. Corresponding, Erdos Electrical Power & Metallurgical Co., Ltd (Erdos EPM) is considered to be the other parent of Erdos-Elkem and Erdos Cashmere Group Co., Ltd. (Erdos CG) the parent of Erdos. Chapter 2 is providing more details on some of the complexity related to owner structures in the interconnected networks around the operations in Erdos Qipanjing Industrial Park in Inner Mongolia.

The Elkem strategy statement show that strategic positions and predictable financial results are important to the firm, thus giving reason to discuss Elkem SM's market shares compared to changing demand/supply conditions and how the four different BMs impact performance under changing market conditions.

In the following both possible configurations will be considered and according to the relevant laws, The Law of Security, Laws on Land Rights, etc., see e.g. MOFCOM (2010), Asia Law & Practice (2005) and Chen (2008), it is assumed that both configurations are possible in most regions of China with some local exceptions. Last, all equity modes are not allowed in state regulated industries according to the Security Laws, MOFCOM (2010) and Wolff (2008), however we know now that there are plans to ease restrictions in some state regulated industries for foreign direct investments (FDI) in an SSE strategic mode. WOFE seem more uncertain at present though and will most probably still be under strict conditions for foreign investors, FMPRC (2010) and China Daily (January 4, 2010). The WOFE mode is still considered, but it seems that it will be strict restrictions on organisational structures and the nationality distribution in the top management and workforce of a registered WOFE. The latter is however yet to be decided by official bureaucratic entities. However, the WOFE mode seems to be harder, but still not impossible with the use of Chinese agents to acquire land use permits and permit to extract raw materials even under the current regime, see Wolff (2008) for structuring options in regulated industries. There are several laws and regulations to consider in this perspective, thus also all the different institutional environments in different regions in China, but there are available structures supported by legal framework to use a WOFE mode even in highly regulated industries.

This report tries to identify areas where Elkem and Elkem M with affiliates can seek for improved performance, included safeguarding mechanisms, to mitigate risks in China. In other words; seek to reach better than average in industry performance and keep, and if possible, gain competitive advantages. This perspective is not dependent on costs, but rather the potential of increased net profit, though without excluding the cost perspective.

Transaction Cost Economics (TCE) is a widely accepted and considered by many researchers as a very good methodology to assess the challenge at hand, Standifird and Weinstein (2007), Henisz and Zelner (2004) and Williamson (1981). TCE is however also criticised by many to be applicable only in a company to company environment, see e.g. Coombs et al. (1996, pp. 5-9 and pp.172-174). Henisz and Zelner (2005) use TCE and add positive political theories and include judicial institutions in their considerations around TCE. Coombs et al. (1996) argues that transactions takes place more efficiently through the market place than within a firm unless rationality, asset specificity and opportunism coexist. Yamin (2006) claims asset specificity will change over time hence difficult to put in a TCE context. He argues that in a highly changing or uncertain environment the notion of asset

specificity would become somewhat ambiguous and the approach seems to be inconsistent with uncertainty.

Other elements important to consider is how to specify the degree of asset specificity. The notion of asset specificity is considered to have several dimensions to it. Williamson, (1983) identifies four dimensions: First is Site Specificity, e.g. a natural resource available at a certain location and movable only at great or high cost, the second is Physical Asset Specificity, e.g. a specialised machine/tool designed or used for a single or specialised purpose. The third dimension is Human Asset Specificity, i.e., highly specialised human skills, arising in a 'learning by doing' fashion which is related to the concept of transfer of tacit knowledge, particularly in an EIJV context. Finally he explains the Dedicated Assets dimension, i.e. a discrete investment in a plant that cannot readily be put to work for other purposes. Malone et al. (1987) have added the Time Specificity dimension, but this is related to delivery times to customers and is not considered relevant within the scope of Elkem's situation and the fact that produced microsilica can be transported and stored close to customers and the product is not subject to reduced quality if stored thus making this dimension inapplicable. Using the TCE approach complicates the picture when determining the exact impact, or value, of the aggregated asset specificity. On Site Specificity the value has been confirmed to be low by Elkem M. Physical asset specificity seems to be hard to put a value on. Physical assets can be sold, but probably not without some negative impact on the human asset specificity, emphasising the guanxi and trust elements in China and the quality of relations to political and bureaucratic institutions. The dedicated asset specificity seems to be considered of high importance by Elkem, but might in reality be perceived as equal to the physical dimension inside the scope of this report as both is related to production equipment designed for one, or a few particular purposes.

Joskow (1988) points out that these different categories point to essentially the same phenomenon, but that it is instructive in empirical analyses to treat each category distinctly. Joskow's series of papers have looked at contract structuring in order to examine how contracts mitigate transaction costs inherent in a market based relationship. Zaheer and Venkatraman (1994) define Human asset specificity as asset specificity dealing with the degree to which skills, knowledge and experience of the agency's personnel are specific to the business process. In addition they add the dimension Procedural asset specificity, which incorporates notions of human asset specificity and refers to the degree that an agency's workflows and processes are customized to exploit the other party's capabilities. The latter

brings the notion of opportunistic behaviour into the TCE approach and is here defined as a relation which one party uses the relationship to better their position, often at the expense of the other.

Adding these notions of asset specificity up and it seems like close to impossible to find a value on asset specificity that can easily be related to a huge set of transactions in a network of stake-holders ranging from interconnected individuals, groups of people, firms and public entities. Adding all these transactions, included political and bureaucratic institutions, and it will be an expensive and time consuming task to perform an analysis based on transaction cost.

Due to the multiple actors and network nature of all these models this report is based on a generic approach proposed by Peng (2009). He presents three main perspectives on global strategy, Figure 1: The Institutional Conditions (Institutional view), including regulatory institutions and the normative and cognitive institutions; the Competition within an Industry (Industry view) and the Resources and Capabilities available to a company (Resource view). His approach aim to make a framework for extended analysis of competitive factors that eventually will determine a

company's performance in the global market. All these models include several transactions between several actors at any given point of time. This gives the reasoning for a more generic strategy approach to the challenge. The reality of global competition is however more complex and indistinct than this broad views can cover without performing detailed analysis

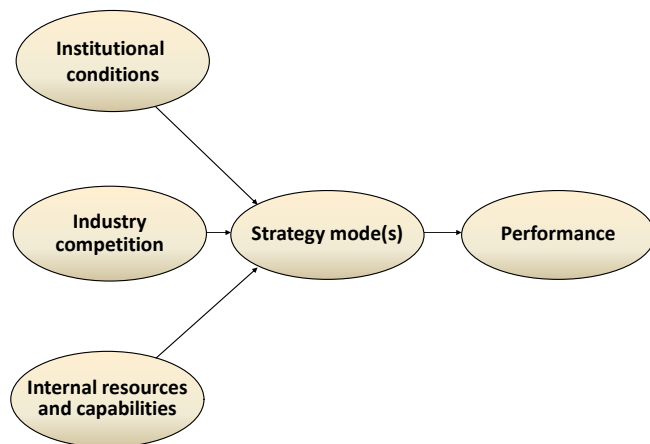


Figure 1 - Three Perspectives to Performance, Peng 2009

within all the three perspectives. Thus, this starting point gives a good basis for identifying important details in different uncertain and specific challenging areas when using the proposed framework for each perspective and still gives an overall view of the strategic landscape. Peng proposes two levels of analysis: Business-level and Corporate-level, the latter could be most appropriate for big Multi-National Enterprises (MNEs), but without excluding a business level analysis as a less important level to analyse for big companies. Under the scope of this analysis, Peng, chapter 12, Strategic Alliance and Networks view is used to gain an overall insight in the generic strategic environment in Elkem M's business

area in China. The generic analysis include only parts reviewed as assumed relevant parts of Peng's tools in the case of Elkem M in China, it is further assumed that strategy analysis is a continuous process in the company and in not only the alliance and network perspective. The key to leverage competitive advantages and to sustain these advantages in the future global marketplace is to use these tools from time to time and in the rapidly changing business environment we see today it is increasingly important to do this continuously.

2 Overview of Networks and Markets

Erdos is a Wholly Owned Enterprise (WOE) of Erdos Electrical Power & Metallurgical Co., Ltd (Erdos EPM), the latter which Mitsui & Co., Ltd. (Mitsui) owns a 25 % share in, Mitsui news release (2006) and Erdos CG well over a 70 % share. Erdos EPM is in an EIJV, Inner Mongolia Erdos EJM Manganese Alloy Co., Ltd. (Erdos EJM), where Mitsui and JFE Steel Corporation (JFE) own 49 % and Erdos EPM 51%, Mitsui news (2007).

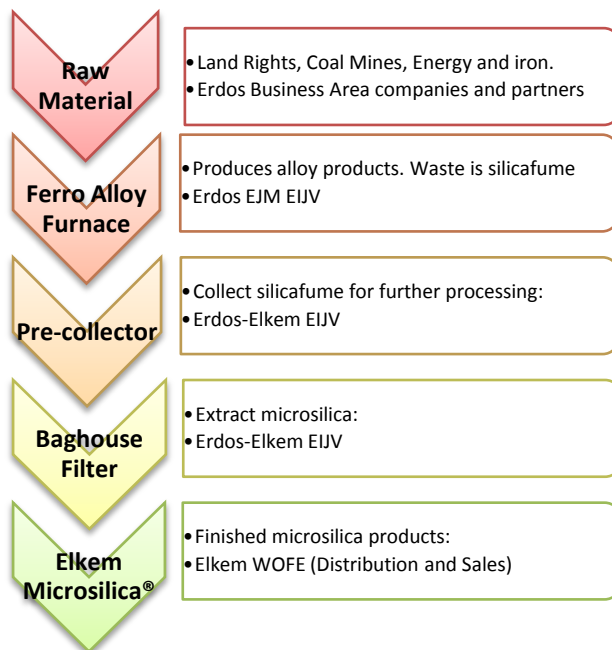


Figure 2 - Production Process and Ownership

Erdos EJM produce different alloys for steel producers for use in steel production to enhance quality and different alloy mixes allow production of different qualities of steel products. Erdos CG have its core business in cashmere wool and this is still the biggest business area of Erdos Group Co. Ltd.

Recently, Erdos EPM signed a contract with China Recycling Energy Corp. (CREC) to install heat energy recycling systems in 11 of the furnaces at Erdos'

ferro-alloy melting plant in the Erdos Qipanjiang Industrial Park in Inner Mongolia. The goal is to reduce the consumption of coal in the power plants delivering power to the melting plants by 10-12 %, thus saving Erdos EPM as much as EUR 30 million per annum, PR Newswire - Asia (April 2009). Further the local government in Erdos, the city, in Inner Mongolia have ordered a 2 Giga-Watt solar plant in Inner Mongolia, the contract is with The China Energy Conservation Investment Corporation (CECIC), but the U.S. company First Solar Inc. is a partner in the project, PR Newswire and FT (October 2009). This will be the biggest solar power plant in the world when planned finished in 2019. Orkla and Elkem have similar technologies within their business areas today. In other parts of Inner Mongolia local governments have big infrastructure projects planned for the coming decade.

Having mentioned several of direct- and indirect network partners to Elkem M in Erdos city in Inner Mongolia gives an overview that the Erdos-Elkem EIJV is only a small part of several interconnected companies and government institutions.

The actual considered Erdos-Elkem EIJV (BM1) was established in 2006 as a 50/50 ownership company to produce microsilica for the global market. The Chinese market seems to be considered of less importance to meet Elkem’s strategic goals at this point in time, but the company spend a lot of resources in China and will continue to do so in the future. Erdos-Elkem has an Elkem appointed CEO and the board has three members from each of the companies, Erdos EPM has the Chairman of the Board (CoB) and Elkem the Vice CoB. Shareholders meetings are arranged when necessary and according to Chinese regulations. Elkem M is very satisfied with the cooperation so far in the EIJV, but have some concerns when it comes

to the rapidly growing partner and the quality of the silicafume that are used to produce microsilica. The production process of microsilica is shown in Figure 2; hence we see that silicafume is a waste product from the ferro silicon alloy production. Chinese emission control

regulations require the silicafume to be captured and the waste product is used to produce different silicon products. Elkem M is responsible for the transport of the finished microsilica from the Erdos plant to shipping hubs and to the customers.

Microsilica has several applications in many industries and is used to enhance the strength and durability of concrete in buildings (mixed with cement), in the oil and gas industry to seal wells, as a pellet binder agent, in the window glass industry and several other industries.

Elkem M is a Chinese registered WOFE owned by Elkem and it seems reasonable, in the context of this report, to consider Elkem M as an integrated part of Elkem. Further, Erdos, as the legal partner in Erdos-Elkem, is seen an integrated part of Erdos EPM. The reasoning

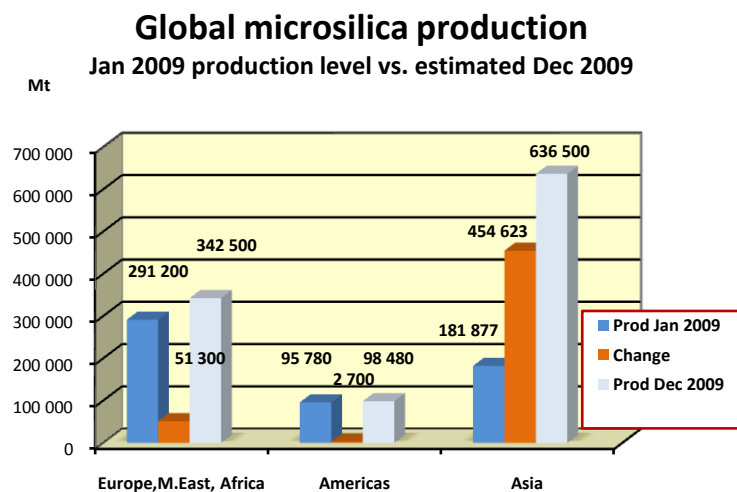


Figure 3 - Global Production as per Dec 16, 2009, Elkem estimates

is simply that managers from Elkem and Erdos EPM makes up the management in Erdos-Elkem.

Strong increase in the supply of microsilica from Asia, 90% of the increase is from this region, thus creating a strong degree of global competition, Figure 3. As we can see from

Estimated global microsilica production vs sale

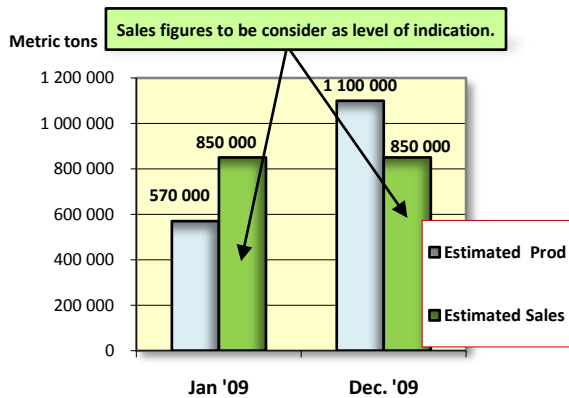


Figure 4 - Global Production vs. Sales Dec, 2009 Elkem estimates

the next, Figure 4, the estimated sales are unchanged during the last year and creating a strong growth in stocks.

This market situation creates a strong downward tendency in prices in the global market and Elkem M has two home market competitors, Fesil AS producing almost 50,000 tons per annum and last Finnfjord AS producing about 18,000 tons annually, both delivering mainly to the European

market and with European partners and agents owning parts of their marketing, distribution and sales channels. The big increase is in Asia, with Chinese producers forming most of this increase in supply. The stock of microsilica is assumed to have increased since late 2008 according to producers delivering to the European market; however Elkem M seems to have avoided this by long term supply agreements to other markets.

Estimates from the Chinese market, is that about 10% of the total demand is for appliance in electronics-, chemicals- and other industries. The main market for silicon materials is equally distributed for use in marine structure constructions; high-refractory industry; roads, bridges and special cement (e.g. sealing oil-wells)⁵. China seems to have the fastest growing markets in these businesses the coming decade as we have seen the rest of the world have slowed down on big infrastructure projects.

⁵ Estimates found on China.Org., December 07, 2009

3 Framework

Chinese companies are well experienced to operate in an ever changing business environment with fierce competition and will act accordingly in an effort to gain competitive advantage. This has been a reality since the market liberalisation in the PRC was introduced more than 30 years ago under Deng Xiaoping's supervision. After the PRC's WTO entry in 2001 there has been increased rate of development and changes of the Chinese institutions to further support the goal to develop a social market economy, see e.g. Bown (2007), Peerenboom (2007) and Wilkin (2004).

Peng's (2009) three generic views to international strategy in Figure 1 is, in brief, used as a tool to assess institutions which consist of the regulatory, normative and cognitive pillars. Applicable tools are first Porters Diamond to determine the impact of regulatory and formal government institutions which includes policies, regulations and laws in the domestic market, but also the target country. The cultural and ethical aspects can be evaluated with tools from e.g. Hofstede (2001). Porter's 5 Forces model, the three generic entry strategies, SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) in his industry based view to strategy. Resource based view include the SWOT tool, Value Chain analysis and the VRIO framework (Value, Rarity, Imitable and Organisation).

This analysis starts with a discussion of particular areas considered of importance in Elkem's and Elkem M's process when deciding a future strategy mode in China, either in a continued partnership with Erdos, change to other EIJV partners, SSE mode or WOFE mode. The actual analysis is conducted in a PESTEL analysis framework, which include all of Peng's proposed perspectives to analyse the Political-, Economic-, Sociological-, Technological-, Environmental- and Legal Environments relevant to Elkem and Elkem M and their operations in China. The analysis considers investments in the value chain, ranging the production line from raw material to microsilica, although Elkem and Elkem M today solely are involved from the silicafume stage of the value chain. Distribution and sales are not considered in this report as this part of the value chain is 100 % owned and controlled by Elkem M, though the IPR discussions have implications for the downstream value chain.

The questions discussed in the report are Elkem's political relations on central-, regional- and local levels, legal considerations regards to market agreements and IPR protection, which parent dissimilarities that might be most important to focus on in EIJV modes, which

modes give better opportunities regards to the impact Elkem M can have on the silicafume, thus enabling production of high quality Microsilica in China, cultural differences that have been identified in interviews as challenging to Elkem M and last the sociological environment China provides as to offer a competent work force in all levels of the organisation in all the four modes outlined in chapter 1.1.

Hofstede (2001) and Trompenaars and Hampden-Turner (1997) both provide detailed insight into the cultural and ethical differences between a major part of countries. The two give very important, but on the other hand maybe complex approaches to cultural differences and how to manage with them. Hofstede focused on IBM alone giving a business related approach to culture and Trompenaars including cultural aspects outside a pure business environment, which give these two directions complementary tools to consider culture and cultural differences and their impact on cross culture business. This report has based the discussions on empirical studies like Hitt et al. (2004), comparing on how much Russian vs. Chinese business managers focus on different partner capabilities i.e.: Technological-, managerial-, complementary- and unique partner capabilities along with intangible assets and prior alliance experience. It shows that in a Russian business environment the lack of institutional support compared to the extent we find in China, it seems to be a lot more predictive institutional environment in China, thus informal institutions still plays a vital role. They find support that prior alliance experience is of great importance to Chinese managers, thus firms are more likely to appear trustworthy if they form a long-term and trusting relationship focusing on building social capital.

Elkem is strong on this area due to the 33-35 % global market share. A consideration of the industry growth opportunities, entry barriers, power of suppliers and buyers, threats of substitutes and possible conglomeration. However, based on the fact that Elkem M seems to face an increased competition from Chinese companies (new entrants), further the need to control the quality of the silicafume delivered to the current EIJV and the increased price competition due to higher production than demand on the world market, some considerations are made later on. However, fluctuations in the world market price will always be there from time to time and a long term strategy should include this fact. One new force proposed in Porter's diamond, complementors (Peng 2009, p. 48), is considered in the PESTEL framework used for the analysis, to consider safeguarding considerations Elkem M and Elkem might gain positive outcomes from in a new phase in the Erdos-Elkem relationship and the China investments.

Recent events has occurred both related to political, judicial and market developments, e.g. the negotiations on top political level between China and Norway to pave the road for a trade agreement between the two countries and the increase in stock of microsilica due to the over-supply situation.

4 Preparatory Discussions and Research

In all aspects of business in global and foreign markets there will be political, legal and financial risks involved in any project a company and investment a company engage in. Many companies have gained strong competences on how to work in China, but still many Western companies have issues that may affect them on specific strategic and tactical challenges. Many of these challenges are related to the formal institutional framework, but maybe more common is the informal institutions.

Elkem M has further identified that IPR might be a problem area for them, however research suggest that this is a marginal challenge in the metal products business. The size dissimilarity between Elkem M and Erdos EPM has also been addressed as a concern to Elkem M and both these last two issues are introduced in this chapter. Further some empirical studies are introduced and discussed and the influence of knowledge transfer given some considerations.

4.1 Formal Institutions

Some formal institutions that have an impact Elkem M's operations in China are the political, administrative and judicial institutions not only in China, but also in Norway. In China all these institutions have to be considered both on a central, regional and local level, where the latter might be several local-level authorities if Elkem invest in melting plants or silicafume treatment plants in several regions of China depending on the strategic mode.

The administrative system refers to a series of regulations and practices in regard to the composition, system, power and activities of the state administrative organs. The central administrative organ is the State Council of the People's Republic of China and is as such the highest administrative organ of the state.

There seems to be a strong consensus among researchers that good relations to political and administrative institutions in the environment in which they operate is of great importance. From a strategy viewpoint this includes concepts as culture and ethics.

As important are the considerations a company will have to make regards to the industry it operates in and the resources and capabilities available to a company.

Research and previous experience seems to show that Western companies entering emerging markets need to emphasize on specific issues compared to entering other markets,

suggesting that the nature of an emerging economy is very different from that of other markets.

Norway and China have recently started to build top level political relations that might decrease the risks and increase opportunities for Elkem and Elkem M in China. However, as the *guanxi* connection from Elkem or Elkem M managers to key officials should not be underestimated as an important success factor in the Chinese business environment the long term effects of these relations will depend on how changing governments in the two countries manage to uphold these relationships.

Nevertheless, it might be of great importance to Elkem and Elkem M to build their own networks to the Chinese political and administrative institutions from central to local level depending on where future investments in China will be made, but still seek political support from the Norwegian government when needed regardless of what future strategy mode the companies chose in China.. Elkem and Elkem M's own networks should be made on several levels within the organisation and governance structure, as proposed by Zhu, since people change positions in the formal institutions. This will increase the possibility of keeping 'high quality' *guanxi* networks on a long term basis. Trust building is the key term in this picture. As Zhu conclude, participation in networks that lobby for an industry is most likely more effective to influence policies, than acting as a single company, unless the top management can build very strong relations to key political and administrative actors. The proposal is to use top level management in Elkem M as participants in any meeting Erdos have with administration and politicians both on central-, regional- and local level. In other words, use the close relations to Erdos to gain competences in how to build personal relations to important politicians, bureaucrats and officials.

China is increasing in professionals on high technical level skilled employees and if the Chinese work-force can offer highly qualified technicians and business managers there is always the opportunity to educate them. Looking closer on the Kodak case (see chapter 4.8) shows that this kind of approach can be very successful and including fully shared R & D information.

There has been a revolution in the Chinese judicial system the last 15 years, e.g. Dong (2008), and Chow (2003). It seems to be equal in efficiency compared to any judicial system in the Western world and the development continues rapidly. Continuous efforts are made to improve the judicial system and reduce the amount of legal decision points by distributing judicial power to bureaucratic entities, but China is a huge nation and it will

probably always be a great challenge for policy-makers, bureaucrats and judicial employees.

Chinese companies are winning increasingly more cases on IPR in foreign countries. According to OECD officials, OECD (2009), the quality of the patents Chinese companies get approved abroad is of very high standard and improving, and they are doing what is required according to national and international laws to protect it. This should be good news for Western companies investing in China, showing that Chinese companies strongly rely on IPR law, and indicates a strong degree of respect for the concept of IP rights. The Chinese judicial system has undergone some big structural changes the last decades, and much indicates that the legal system and political system grow increasingly independent of each other.

4.2 Informal Institutions – Confucianism and Communism

Many Westerners claim that China is westernising due to what they see on the surface in cities like Beijing and Shanghai, Chee and West (2007). Considering the cultural onion outlined by Trompenaars and Hampden-Turner (1997), it is most likely that what we see on the surface, (i.e. explicit features like clothes and artefacts), is not necessarily what the underlying norms, values and basic assumptions are, (i.e. implicit strong culture based values). Some researchers and experienced business people tend to group Chinese people in three age groups: >25 which is less dependent on personal relationships to make trust relations with Western business partners than the 25-55 age group and >55 age group which still to a great extent rely on personal relations when involved in a business context. How these different age groups behave in a business context will vary from region to region and the ages proposed here are by no means absolute whether when operating in urban or rural areas of China.

In Norway the culture is far more future-oriented and the perception of time is sequential to a strong degree. Planning plays a stronger role in a future-oriented culture as compared to a past-oriented culture. This does not mean that Norwegian culture do not emphasise its cultural heritage, but rather that the past does not have the same implications on how the perception of time influence the way of conducting business in a future-oriented culture.

This aspect of doing business in China is reported as a problem for numerous Western managers and is by many considered a major obstacle for efficiency. In chapter 4.2.4 the

concept of how perceived time is related to how Western companies can learn to become more flexible and adaptable, using the Western notion of the term.

Elkem M asks to consider is how to implement a Western Strategy Mind-set in China. Today, and in the near future, any attempt to do so will most likely fail due to the cultural differences discussed in chapter 4.2. These issues may be best addressed by giving expatriate managers cultural training to get a better understanding on how they can adapt to the Chinese way of doing business. This report do not find any evidence that the Chinese business culture anytime soon will change to a Western-like business culture. Chinese people are very proud of their history and heritage, thus willing to change and learn how to do business, but this will as all evidence and research suggest be based on Chinese values. This leads to the question on how to utilize Chinese flexibility and adaptability in Elkem and Elkem M. An understanding of the differences in perception of time, chapter 4.2.4, gives a brief introduction to why Chinese business managers seems to be both long term oriented and yet some time very short term oriented. This is probably also related to the harsh competition in the Chinese domestic market and it might be a good conclusion for Elkem and Elkem M to enter the Chinese domestic market to learn how to compete in a strong competitive environment and implement the lessons learnt in the global market. Kodak and I.M. Skaugen are some examples of successful partnerships in Sino-Foreign EIJVs, see chapter 4.

The key to do good in business in China is nevertheless to have a good understanding of Chinese culture with the basic Confucian values and ethics, and of course also be aware of the impact the Communist era had on the Chinese culture. For the five basic hierarchical relationships defined by Confucius, see e.g. Seligman (1999).

Trust and reputation are concepts that are far more important in Chinese business culture as compared to Norway and other Western business cultures, both in personal- and firm level perspectives. Despite the Chinese saying: "*The Marketplace is a Battlefield!*" does not imply that Chinese business people are dishonest.

4.2.1 Relationships

The impact of the Confucian and Communist heritage is important to be aware of for Western managers. If the proper respect for the deeply rooted hierarchical concept is disregarded in interaction with Chinese people, one will most probably not be respected. Show respect to earn respect. Similar to the Western notion of respect, but in Chinese culture relationships have deeper roots than the relationships in the Western world. The

main issue is that everyone who works in China should absolutely learn the concept of give, receive, save, lose and take face and try to understand the concepts and act accordingly in all relational contexts.

4.2.2 The Value of Guanxi 关系

The notion of guanxi, guan/‘door’ and xi an old word for ‘hierarchy’ can maybe best be explained as a ‘door into the hierarchy’ where the latter is related to a person to person relation. Guanxi is in its basics the concept of giving opportunities to individuals ranked low in the Confucian hierarchy. It is a higher ranked person’s ‘duty’ to aid lower ranked persons in his guanxi network, first family and than the more external network.

From Crow (1937) we find the following quote: “No one in China is too lowly to treasure and guard his ‘face’, that is his dignity and self respect. And no foreign resident has ever accomplished anything in dealing with Chinese if he failed to take this factor into account. Those who know how to utilize it have found life pleasant and sometimes prosperous.” Guthrie (1998), have asked 81 firms in Shanghai on how much they rely on guanxi and he claim he can see a change in urban areas where the importance of guanxi is declining, but it will even today be a great mistake to disregard it completely in a business context. And guanxi networks are still very important today because of the very important trust element included in guanxi.

Assuming Elkem and Elkem M are well acquainted with the value of guanxi in a business context this report will leave the importance of the factors included in the concept and rather mention a few examples from the past on how important and crucial for success the concept can be in the Chinese business environment today. One thing that maybe is the most important part if a company is going into the Chinese domestic market is to understand that persistence and understanding the culture are maybe the two most important factors to succeed within China. For extended information on the concept in detail see e.g. Fahr et al. (1998), Dickinson (2008), Xin and Pearce (1996), Park and Luo (2001), Alston (1989) and more. A key success factor seems to be the right connections in the right places, implying top management need to form extensive personal relations with a range of public officials and business people to succeed, regardless of which strategic mode is chosen.

4.2.3 Yin & Yang 阴阳 - Harmony

The Confucian notion of harmony might seem to be a hinder for efficient communication to Westerners. In Western companies it is more common to address challenges without, to some extent, fear of stepping on somebody's toes. In Chinese culture it is common to avoid confrontation to keep peace and harmony, let a conflict ride off by itself so to speak, Chee and West (2007). This is the absolute natural manner to react if a potential conflict occurs so to avoid for another human to lose face, or lose one's own face. Harmony is also closely attached to social networks. The total balance of harmony is very important, and if one individual is upsetting another individual it can destabilise the entire network of connections the two persons are part of. This concept is probably the oldest concept rooted in Chinese culture and the notion of Yin and Yang is known to exist in Chinese culture for almost 4,000 years. It is not likely that these concepts will play a less role in the Chinese society anytime in the near future. These concepts are values and beliefs the Chinese population are proud of and it is not likely that those deeply rooted traditions will change to fit a Western mind-set.

4.2.4 Perception of Time – Norway vs. China

Time is perceived as sequential in most Western countries (things done in sequence, one thing at the time) as opposed to China where time is perceived as synchronically (many things can take place simultaneously), Trompenaars and Hampden Turner (1997). Time is flexible and intangible, thus plans are easy to change. However the long term goals and strategies are not easily changed in Chinese culture. This double effect is due to the combination of the synchronic perception of time and a culture that is past-oriented, the latter indicating a strong respect for historical collective experiences. This view is confirmed by many researchers and business people used to operate in the Chinese culture, see e.g. Freshfields (2003), Lee (2001) and Chen (2003).

4.3 Intellectual Property Rights in China

Rob McEwen, CEO of Goldcorp in Canada had a challenge late 1990s with finding financial support to find gold in licence areas. The company did not have the resources to find the best places in the licenced areas to extract the raw material. It was a combination of lack of sufficient technical internal competencies and poor financial condition that prevented the company to search for the gold they knew was there. He decided to put key company information and intellectual property open on the internet and unveiled the

Goldcorp Challenge early 2000. He found almost 1,500 scientists willing to spend their spare-time to assess the geological data (IP of Goldcorp) and file suggestions for the best spots to set up search operations. This kind of sharing IP was unheard of in the gold industry a decade ago. As Dr. James M. Franklin, former chief geoscientist for the Geological Survey of Canada, put it in 2002: *“Confidentiality and secrecy about reserves and exploration have been its watchwords. This was a totally unconventional thing to do.”*, Financial Times (2002). No company wanted to share their geological information with any competitors, and even less put it out on the internet for everyone to see. The company have increased its value by several 1,000% since then and is today strategic owners of several gold mining companies, amongst them US Gold.

If this is possible in America, we can assume for a fact that it will be safer in China. The Laws are based on the requirements from WTO but even though China have received a lot of criticism for not implementing measures to stop counterfeiting we have to see at the facts; counterfeiting is far more usual in the Western world than it is in China, WTO (2009). It is the sheer size of the market that creates the focus on counterfeiting in China, not how large percentage of the total production or percentage as compared to the population. The new IPR legislation and regulatory framework were passed in March 2003 by the State Council and has been used in several cases to this date.

To fully comprehend how the Chinese legal system works, it is also important to understand that it has developed from a cultural heritage very different from the cultural heritages of Western countries legal systems. A legal system must be accessed within its historical and cultural context, Chen (2008). There are vast sources on Chinese laws and how they have developed through the 20th century, until the resent almost ‘revolutionary’ changes. The structure is implemented after Western model, a process that started late 19th century and of course interrupted by about 26 years of Maoism. It should be mentioned that there are considerable differences between the ‘European’ judicial structure and the Common Wealth judicial structure, the Chinese system has features from both systems.

Since 1995, when China first implemented laws on IPR the number of law suits has increased dramatically. Most companies that end in court for decisions on property rights are Chinese vs. Chinese companies. Only a few foreign companies has been directly involved in some of these cases in the Chinese judicial system. There are several examples of Western companies awarded in courts in Mainland China, but usually with a lot less damage awarded than the original claim.

In 2004/2005 10 provinces signed agreements to enforce IPR protection in China, including Inner Mongolia. LV, Gucci, Burberry, Prada and Chanel are amongst Western companies that have won cases on IPR infringement in China, thus with less damage awarded than the original claims. And all evidence found show that both local and central government take this issue very serious.

IPR receives a lot of attention by the Chinese government and there is no evidence that counterfeiting is more common in China than in any other country in the world compared to the population and market size. The vast majority of IPR infringement cases that end in the court system are Chinese vs. Chinese companies. China is enforcing IPR laws on an administrative level by the Administration of Quality Supervision, Inspection and Quarantine. Provided that the offended party file a complaint along with evidence of infringement of IPR to the proper agencies it is usually easy to get a decision to stop counterfeiting.

One of the most interesting aspects to gather knowledge about for Western companies in China is how the legal institutions are set up, sources of law and law-making, administrative law, law on business entities, intellectual property law, foreign trade law, investment law and, maybe the most important part, the simplified Alternative Dispute Resolution system (ADR). This is designed to encourage the informal cultural institutions mentioned in the former chapter (Guanxi and harmony) as an integrated part of the judicial system. This part of the judicial system makes local institutional conditions more likely to have most impact for mitigating legal risk and business opportunities that arise from local judicial conditions.

4.4 Quantitative Research

With the previous chapters in mind, it is appropriate to argue why this particular report is broadening the TCE approach and then focus on the identified areas of interest for Elkem's future investment strategies in China. Consider research on knowledge transfer, manning policies, social responsibility etc. when assessing the strategic modes that include equity investments. These and more issues are discussed further as the proposed areas of focus are discussed.

Greenaway et al. (2007) studied what kind of strategic modes that gives most returns on asset investments, sales and labour productivity. They studied well over 20,000 Chinese companies in China and their profit margins from 2000 to 2005 whereof almost half of them were EIJVs, other equity modes or WOFEs. They found that a foreign ownership

share between 47-64 % gives the optimal return for Foreign Direct Investments (FDIs), i.e. the corporate performance increase up to this level and decrease as foreign ownership exceed this level of participation. Greenaway et al. (2007) suggest that: "...without sufficient participation by private agents, foreign investors are unable to perform optimally, as they might not have sufficient knowledge of the Chinese market and legal environment, as well as the necessary political connections with local governments." With several EIJVs in different regions of China it seems to be consensus that risk will decrease compared to investing with one partner. However, as Erdos is investing in other parts of China it might lead to better performance for Elkem and Elkem M to increase the obligations in the partnership with Erdos when considering the cultural aspects of a continued partnership. Not ignoring the fact that long term partnerships seems to be rewarded in the Chinese business environment and that the partner dissimilarities between Erdos and Elkem seem to be more of a pro, than a con when considering the performance perspective. If Elkem M continue to co-operate with Erdos it would most probably be easier to increase the guanxi networks and relationships necessary to ensure a long term high performance in China.

Buckley et al. (2006), who investigated the electronics industry from 1995 to 2001, conclude amongst other that: *"...foreign capital participation in China's industries, and sub-sectors, with low levels of exports is likely to be especially beneficial for productivity growth in China, and should be encouraged. A caveat here is that the industry concerned should be one in which export potential exists."* Basically the same conclusions are made by Li (2005), she found a positive relation to performance and a >50 % foreign ownership indicating that foreign owners contribute more to EIJV productivity and transfer of knowledge if the foreign parent have a majority interest. However, it is important for a foreign owner to support a structure where knowledge transfer becomes bi-directional in order to combine strategic advantages in collaboration with their Chinese partner. The findings of Greenaway (2007), Buckley et al. (2006) and Li (2005) strongly suggest, as previous noted, that EIJVs is more likely to succeed in China than a WOFE, or a 100 % Chinese owned enterprise. These studies shows something interesting that is distinct for FDIs in China as compared to FDIs in other countries including both industrialised, developing and emerging economies. It seems that EIJV companies give considerably more net profit on average than any other mode in China, while in other markets WOFEs perform better, thus WOFEs in general have significantly higher financial risk.

Introducing the Donane-Wahaha in chapter 4.8 is for the specific reason to compare as to how success rate with French EIJV owners are as compared to Chinese EIJV owners.

Doz (1998) finds that French/Chinese EIJVs have a lower success rate than Scandinavian/Chinese owners. The management structure seems to be of greater importance and may have significant negative impact on a WOFE performance if an unsuitable governance structure is implemented and also the mix of cultural differences.

4.5 Partner Dissimilarities

Parent size is often used as a control variable in EIJV studies, e.g., Olk (1997) and Lyles and Salk (1996). However, the literature findings dealing with differences in parent size are inconsistent. Park and Ungson (1997) found no significant relationship between size differential and JV dissolution. Some findings suggest that dissimilarity in size enables parent organizations to enjoy each other's unique characteristics and consequently leverage competitive advantages within an alliance, e.g. an EIJV. The larger parent usually has power, accessibility to markets, personnel, capital, and mass production capability. The smaller parent often has flexibility and quick response ability, is innovative and ready to take risks, and uses advanced technology, Doz (1998). However, contradictory evidence can be found in the literature, but one market seems to stand out as very different from other

Orkla Employees 2009	Orkla Revenues 2009 EUR	Elkem Employees 2009	Elkem Revenues 2009 EUR
24,000	7 billion	2,900	980 million
Erdos CG Employees 2009	Erdos CG** Revenues 2009 EUR	Erdos EPM Employees 2009	Erdos EPM** Revenues 2009 EUR
24,000	440 million	7,000	160 million

Figure 5 - Employees and Revenue Dissimilarities⁶

markets, the Chinese. In general we see smaller firms as entrepreneurial, flexible and usually with an informal organisational structure, whilst larger firms have attributes like bureaucracy, complex and slow decision-making. This is not at all always true today, as we have seen

many companies has been able to turn around in a matter of months and even big firms with informal organizational cultures.

In the Erdos-Elkem case these size considerations seem somewhat inept. Erdos and Elkem present these figures of employees as per December 31, 2009: Erdos Group: 24,000, Orkla: 30,000, Erdos M: 7,000 and Elkem: 2,900. If Erdos M continue to grow fast and Elkem M want to keep a >30% global market share on the global market, it will be a challenge to apprehend how Elkem can keep the strategic position outside an EIJV, either with Erdos or

⁶ * Exchange rates: NOK/EUR = 8.00, RMB/EUR = 11.00. ** Estimated revenues.

other partners in China, when the production of microsilica have increased at such a tremendous speed the last year.

Considering size dissimilarities by turnover we can see that by far is larger than Erdos CG. Similar, the revenues for Elkem exceeds Erdos EPM by far in terms of Euro. Only when counting by number of employees is Erdos EPM bigger than Elkem.

Looking at the considerations on formal and informal institutions earlier in this chapter it seems more likely that the parent size dissimilarity will be a pro, rather than a con if Elkem develops the current BM with Erdos. The size difference and other dissimilarities may be used to benefit in terms of strategic position. It seems hard for any competitor to imitate the size of Erdos EPM's production facilities in Erdos Qipanjing Industrial Park in Inner Mongolia and Elkem M's market-share and technology. It seems to be a perfect alliance to extend the global market with new innovative silicon products, build a new common brand with Erdos in the Chinese and Asian markets or simply protect the strategic position Elkem M has today.

Second, if the share in an EIJV, or other kind of shared equity FDI, is between 47-64 % it seems to be the best option for any investment in China, thus suggesting that any other distribution of shares in FDI in China decreases the performance in a company. This gives strong indications that WOFE is not only bringing increased risk as a result of the well accepted strategic implications that a 100 % ownership in general involves more risk thus higher performance if successful, but this mode also seem to increase risk in the Chinese market. This effect may be connected to other factors relevant for investments in China, e.g. cultural differences that is hard for Western companies to learn unless they have a stable Chinese network to rely on. It may also be because proper connections to relevant political and administrative units are harder to get in place without a Chinese agent. Using agents is a feasible solution; however it would be assumable that the risk of opportunism increase slightly with an agent agreement to take care of.

4.6 Knowledge Transfer and Performance

Gooderham and Ulset (2001) outlined an integrated knowledge transfer model which gives good reasoning to Elkem and Elkem M's challenges in the different modes. Lipana et al. (2007) suggest an added element to this framework based on applied use of the knowledge transfer model in the INCAT-AFAI EIJV case, Figure 6. This joint venture failed after a successful long-term market agreement between the two companies were converted to a

signed agreement to form a 50/50 EIJV assigned to build a specific range of fast ferries in China. The contract was based on trust only and had a mere three sentences that concluded the agreement. Lipana et al. found that the degree of competition between INCAT and AFAI was a key element that gave the outcome of the EIJV. INCAT, a Tasmanian based company, wanted market-shares in the Chinese market and were supposed to exchange technology to its Chinese partner in return. It turned out that INCAT were not as willing

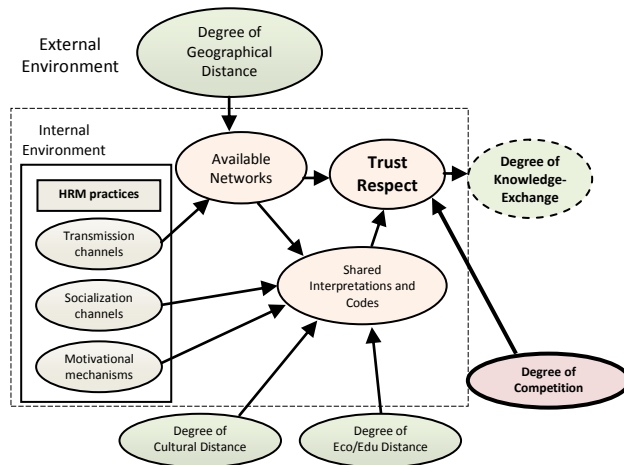


Figure 6 - Knowledge Transfer, Lipana et al. 2007

and able to share technology with AFAI as the latter partner anticipated and the venture failed, however two ships were delivered outside China after several years of negotiations between the partners. The net financial return was positive for both partners in the end.

To be successful in a foreign market, a company need to possess advanced technological and marketing competencies, but also organizational

capabilities that enable them to utilize internal resources in an effective manner to ensure sustainable growth and profitability, Gooderham and Nordhaug (2003). These organizational capabilities are very likely knowledge-based and unique to the company. These are most certainly capabilities possessed by Elkem, after all their global market-share on the microsilica market is close to 35%. The focus should be on how Elkem can use the opportunities that arise from a partnership with the biggest ferro-silicon producer in the world. It seems more likely that a close alliance will perform better than an MA in this case. The key is to share knowledge and get knowledge on Chinese business in the process. The question in this perspective must be to what degree it is achievable for Elkem M to keep their market-share if they reduce the control an EIJV can facilitate when it comes to knowledge transfer and in particular regards to how able Elkem M is to control the quality of the silicafume delivered by Erdos. If Elkem invest in an SSE-, or WOFE strategic mode it seems more likely that the HRM policies will increase in importance and drain more internal resources from Elkem in the initial phase of a start-up. In the mean time Erdos might gain market shares in the Chinese market, where most likely the strongest growth of infrastructure project will be the next decade. Other parts of both Far-East and Central Asia will most likely continue to grow maybe more than other markets seen in a 10 year

perspective, this may as well create a shift in the market-shares if Elkem chose an MA with Erdos and invest in other modes. However, an SSE mode might be a key to raise the performance potential, hence keeping the close relationship to Erdos and other alliance partners and official institutions in China.

Doz and Hamel (1998) argues that strategic partnership have become central to competitive advantage in the fast-changing global markets. Skills and essential resources are usually found outside a firm's internal border and often outside the firm's direct controllable network. Looking at the Kodak-FUDA case in chapter 4.8 shows that Kodak went outside what was, at the time, perceived as possible by most experts, Gooderham and Nordhaug (2003) and they formed a centre of excellence in China in the EIJV with a State Owned Enterprise (SOE) FUDA. Gooderham and Nordhaug further present a framework of four levels of transfer capabilities of tacit knowledge⁷. The firm's motivation to move from level I to IV is dependent on the organizational structure, strategy and objectives for the foreign operations.

Level I, where a foreign company, marketing a fairly standardised product range on the global market, might want to transfer only knowledge on how to operate factories used for production purposes, e.g. Elkem M use Erdos as a low price producer to serve the global market. And level IV, where the goal is to be a local leader in the foreign country, thus wish to transfer substantial knowledge ranging from R&D-, advertising- and marketing competencies. The full range of these knowledge transfer levels seems feasible for Elkem to accomplish in the three equity BMs, but within the context of Erdos-Elkem or SSE might be the modes that will create most pay-offs in the trust building perspective.

The degree of knowledge transfer will in any of the equity modes are of importance to Elkem when considering the best performance alternative due to the degree of internal HRM practises the firm can implement into the investment.

4.7 Criticism of the TCE Approach

TCE is often disputed and criticised for its ability to mirror a complete set of strategic and tactical options for a company to base its decisions upon in a network of interconnected transactions. Zhu has discussed political- and legal risks with a TCE view and how it plays a role in Elkem M's cooperation with Erdos in detail in her report, however it seems to be

⁷ Leonard-Bardon (1995); four core capabilities dimensions, in Gooderham and Nordhaug (2003)

other determinants not discussed by her that can provide supplementary information in this specific case, see chapter 1.2. Without disregarding TCE, for the purpose of this report the risk is discussed as a part of the performance variable in an interconnected network environment and not analysed as in transactions between two parties. Variables like cultural distance and learning/knowledge transfer are important determinants for the performance in not exclusively the current EIJV, but also in the other modes considered in this report. This chapter discuss information related to elements identified as important to Elkem M in China and assess gathered data from Elkem and other sources to prepare the analysis in chapter 5.

The degree of trust and reputation is in many cases particular important in China and will be a major success factor in many aspects of collaboration. However, the younger part of the Chinese population is more likely to accept the Western style of doing business, than the older part of the population, Chee and West (2007), and it is probably a lot more likely that Chinese companies know a lot more about Western business culture than the other way around.

Henisz and Zelner (2004) states that hazards present in transactions between the government/administration and a private party differ from those between two private parties. In the former case, the investor need to incorporate considering the risks connected to the broader polity the government have to rely on to gain support before making choices about investments and investments structures, China seem to give special implications though, where it seems both a general lobby approach as part of a larger pressure group might be equal in importance as the personal relations to people in the political organs.

Regards to opportunism, Standifird and Marshall (2000) argues that trust exists where a party will not act opportunistically regardless of external variables, or future interactions. Trust requires familiarity, common interests and mutual understanding; these features can only be developed through repeated inter-personal interaction. Assurance does not require the pre-existence of a relationship, Standifird and Weinstein (2007). However, some level of assurance that the partners will act in a specific way is to some extent required.

There has been considerably criticism of the assumption of opportunism though, see Hill (1991), Ghosal and Moran (1996) and Hodgson (2004). Assurance exists where one party believes the other party will perceive future exchange between the parties as profitable and beneficiary. Furthermore, this report has found evidence that opportunism is far less likely to occur from a Chinese partner than from a Western partner due to the tendency in Chinese

culture to focus on harmony, relationships and guanxi rather than conflict, thus creating a stronger willingness from a Chinese partner to maintain a long-term win-win relationship.

In any consideration of the TCE research it seems to be consensus that the approach does not capture the importance of alliances and more important, it seems almost impossible to predict risk as to when political and bureaucratic institutions is about to fail. In China it seems less likely for any major institutional unforeseen change to occur than in any other market at the present time and the changes seems to evolve in a fairly controlled manner. Changes include the TCE's ability to predict a future financial crisis.

Nevertheless the TCE is very useful as an instrument to explain relations in a wider perspective and as a tool to analyse a few variables in a transaction between two, or a few, parties and bring this understanding into a broader analysis as used in this report.

4.8 EIJV Success and Failure

Today, those considerations seem useless when we see how e.g. the automobile industry has collaborated around the world in huge networks, often sharing key technology, with small specialized partners the last decades. Today there seems to be little problems sharing this technology with Chinese car producers, Volkswagen is one of the Western companies that have invested heavily in the Chinese market. If we look at a company like Airbus, it is de-facto collaboration between 100s of inter-connected internationally diversified firms cooperating and sharing technology to build aeroplanes all around Europe, .

Two approaches that have proven successful entering China is Kodak and ship owner I.M. Skaugen.

Kodak went into a partnership with the Chinese company Fuda, an SOE, in 1984 and invested in the Xiamen Plant opening in 1989. This was a turnkey EIJV for Kodak aiming to turn the SOE into a state of the art facility. Fuda felt for long that the process was too slow, as it took 5 years from the agreement was made until the plant became operational. The agreement included Fuda getting full access to state of the art technology from Kodak and at a point of time when the Chinese laws and market where far more uncertain than it seems to be today. After the opening of the renewed plant CEO George Fisher in Kodak built personal relations to Zhu Rongji (First Vice Premier 1993-98 and Premier 1998-03) as he had grabbed the importance of guanxi connections to further develop Kodak's investments. Based on this personal relationship it was possible for Kodak to invest in a top

R&D facility in China mainland starting operations in 1998. The Xiamen Plant is today a R&D Centre of Excellence and the long term strategy has paid off. Kodak and Fuji now share about 80% of the Chinese domestic market charging premium of almost 50% above their local Chinese competitors.

Kodak export technology from China to the world market. One of the key success factors was the investment and establishment of educational institutions both for workers, researchers, designers and managers which enabled this Sino-Japanese company to succeed.

Ship owner I.M. Skaugen have invested heavily in the ship building industry in China and are sharing key technology with their Chinese partners and are rewarded 25-40% reduced costs of new built state of the art LPG tankers compared to using shipyards in the Western world. In addition they have during the last 10 years build relations to officials by offering investment plans related to carbon dioxide transport and storage. According to Morits Skaugen⁸, these plans have made it easier to make good relations both to central and local governments and administrations. I.M. Skaugen's China ventures are giving reasonably good returns thanks to support and tax-reduction schemes for their Chinese activities due to the companies green profile in China. The last annual figures for 2009 shows that the Chinese activities gives a premium return on investment, though a failed investment in an unrelated business reduce the total profit to close to zero.

Two that EIJVs that dissolved are the INCAT-AFAI EIJV, Lipana et al. (2007), this EIJV failed despite an equity share sized approximately for an optimal level for maximum performance (chapter 4.4). And of course the very recent settled IPR dispute between Groupe Danone and Wahaha.

The actual failure of INCAT-AFAI was probably due to lack of knowledge transfer and the level of competition between the parents (convergent markets). Both these challenges could have been solved with a proper and detailed written agreement between the partners, see chapter 4.6.

The Groupe Danone (Danone) and Wahaha EIJV in the beverage industry recently failed after an IPR dispute. Many stories have come from this recently settled IPR dispute the last three years, most seems to be related to important trust elements vanishing at some point during the duration of the EIJV. The dispute has been a multi-national story where Danone

⁸ Maurits Skaugen at Oslo Shipping Forum 2007

filed multiple law suits in several countries where Danone-Wahaha was represented. The Wahaha and Danone-Wahaha CEO have claimed Danone used malicious means to hurt, not only him in person, but also his family who owned shares in the companies. The dispute was settled in harmony September 29, 2009 and is according to available information January 15, 2010 still waiting for government approval. The conclusion is that Danone sell its 51% EIJV shares in Danone-Wahaha to its Chinese partners.

The Chinese Danone EIJV partner H&J Vanguard (Vanguard) has moreover filed a law suit against Danone as Danone have major ownership shares in more than 30 competing Chinese beverage producers and brands. Vanguard want to try this ownership structure in courts because they claimed Danone could infringe the Security Laws regulating competition in China.

The former discussions give an overview of numerous factors important to consider for Elkem M in future ventures in China. In chapter 5 all these factors are used in a PESTEL analysis based on Elkem M's current position, future challenges and future opportunities in China

5 Analysis

This huge and extensive view would be impossible to discuss in full within the scope of this report, but Peng is however used as a methodology to gain an overview of the competition on the global market of ferroalloy and silicon products and how the Norwegian and Chinese competitors approach these markets globally. The choice of tool to analyse and assess the questions and problems identified by Elkem M in this report is however the PESTEL methodology (Political, Economic, Sociological, Technological, Environmental and Legal). This tool is chosen as it is widely accepted and a first rate tool to back up strategic decisions when trying to identify specific factors a company need to focus on to address challenges at hand, thus this tool adds important strategic guidance for current and future focus areas.

PESTEL can be used in many contexts and can be used both in a complex or simple process. The tool can easily be used in multi disciplinary analysis where several involved parties contribute to address specific issues both internal and external and evaluate the importance each addressed challenge have on a company. This discussion will address all aspects of the four modes this thesis is assessing to attempt to determine which mode that might give the best long term performance for Elkem M in China. This tool has been developed for decades and is used in various contexts and under various names⁹. This tool is designed to facilitate discussions on an ongoing basis on which trends and factors should be monitored closely and might best be used in workgroups. It is known to provide good feasibility studies in a wide variety of business areas ranging from e.g. marketing planning to organisational change

And last: This is a tool that should always be used in conjunction with e.g. the framework proposed by Peng, never as a stand-alone approach and at the least always as a part of a SWOT analysis. An example of a PESTEL analysis form is shown on page 35 and each PESTEL Environment is analysed by using the SWOT approach.

The key questions identified as important to Elkem and Elkem M are all related to the question: “Continue the cooperation with Erdos, or invest in other strategic modes in the future?”

With this assumption in mind it is most natural to use an Alliance and Networks view as the main focus for the framework. The main framework is still as shown in Figure 1 and an

⁹ PEST, SLEPT, PESTLE etc.

Alliance and Networks dimension is used to assess the framework to find that Elkem M is using a differentiating strategy to gain competitive advantage (quality throughout the value chain). Peng (2009), part 2 and 3, proposes several dimensions in which the framework is useful.

The central question is to consider the four strategic modes listed on page 4 of this report, which gives three possible alliance decisions for future investments in China.

- Strengthen and use the Erdos equity relationship to position Elkem and Elkem M.
- Reduce commitment with Erdos and convert to contract mode and consider using several other equity partners. In nature equal to BM1 and with established EIJV in several regions probably decreased risk and performance?
- Convert to contract mode with Erdos and chose a ‘no cooperation’ mode with either WOFE or SSE mode.

The remainder of this chapter use the PESTEL tool to assess the outlined challenges Elkem and Elkem M are facing in China. The SWOT approach is used in each of the dimension as depicted in the example of a PESTEL analysis form shown in Figure 7. The basis for the analysis is the current Erdos-Elkem strategy if nothing else is stated. Where any of the other three modes are applicable in the analysis it is specifically specified.

PESTEL Analysis Factors		Potential Impact	Implication and Importance			
		High, Medium, Low, Uncertain	Time Frame	Type Pos/Neg.	Impact: Increase to Decrease	Relative Importance: Critical to Unimportant
Political SWOT	Government policies, - structure, - leadership, Political trends, Stakeholders demands etc.					
Economic SWOT	Economy trends Home/Overseas , Market cycles, Industry factors, Production levels etc					
Sociological SWOT	Image Brand/ Company, Ethical Issues, Demographics, Education, Management style etc.					
Technical SWOT	Competing products, R&D, IPR, Technology access etc.					
Environment SWOT	Environment regulations Home/Overseas , Market values, Management style, Employee motivation, Organisational culture etc.					
Legal SWOT	Legislation Home/Overseas , Regulatory body, -process, Industry regulations, Competitive regulations etc.					

Figure 7 - PESTEL analysis form, an example

5.1 Political Environment

INTERNAL

Strengths

- Elkem can use Erdos as a mean to gain closer relations to political officials.
- Erdos and Elkem together constitutes a stronger political lobby (internalize).
- Less effort to read political signals within a BM1 and BM2 scenarios.

Weaknesses

- BM3 / BM4 modes decrease performance regards to interpreting political signals.
- Political connections to central, regional and local governments.
- Restricted industry: More arduous to get land rights in a BM3 and BM4 mode.

EXTERNAL

Opportunities

- Top political support for investments in-China.
- Trade agreement China-Norway and close political relations.
- Lobbying easier with good Chinese business network – pressure group.
- Relatively good stability in leadership and political direction in China.
- Political aim with allowing FDI = get a fair share of benefits, win-win perspective.
- China looking to Norway for constructing a social security system.
- Legislation made to increase mobility of the Chinese work-force across regions.

Threats

- Complex political structure – central vs. regional/local.
- Erdos' personal relations and guanxi networks to different political levels might be used as a tactic for opportunistic behaviour within the BM1.
- Power given from political to administrative system (BM3 and BM4?).
- Importance of guanxi in China with changing governments in Norway.

Within the cooperation in Erdos-Elkem it should be standardised procedure in the EIJV for Elkem M managers to participate in any official meetings or social context meetings where Erdos managers working in Erdos-Elkem is attending. This will both serve as a golden opportunity for Elkem M managers to build important personal relations with officials and help to gain a deeper understanding of the Chinese political, administrative and regulatory

institutions and moreover get a first-hand experience on how Chinese culture works, see chapter 4.2. If we consider this aspect under a possible future WOFE or SSE mode this will probably be of crucial importance to Elkem and Elkem M's performance in China. Similar effects can naturally be achieved in a several EIJVs mode, thus decreasing the risks according to Zhu's transaction cost approach which the performance approach seems to confirm will decrease overall Elkem M performance as well.

One thing that that seems to be certain with Chinese politics is that it is reasonably predictable, thus constantly evolving. The Chinese government have not shown any sign at all that indicate that they will ever return to a closed economy, all evidence and sources used are mostly consistent in claiming that the political institutions want a win-win situation and intend to treat both Chinese and foreign companies equally, see e.g. Zhu p. 22 and 28, Shi (2008), MOFCOM, Tang et al. (2003) and Gamble (2002).

Erdos' guanxi networks with political actors can be used for opportunistic behaviour, but not very likely when considering chapter 4.2 and in particular chapter 4.2.3 in this report. Zhu has extensive and good discussions on opportunistic behaviour, while the most likely outcome in any EIJV between a Chinese and foreign partner is that the Chinese partner will focus more on a win-win scenario if the relations inside the EIJV is considered good and the level of trust is high. Research explaining the phenomenon that China seem to have decreased risk of opportunistic behaviour than in other markets are discussed closer in chapters 4.4 through 4.6.

The Norwegian political environment seems more instable in many ways than the Chinese system, but the size of the system reduce uncertainty as to how cost-effective lobbying can be conducted. Nevertheless, there are elections every 4th year that may change the political direction in business- and foreign policies, thus also relations to foreign governments. This might very likely have a big impact on what is happening on a long term basis in the relations between China and Norway and might change the policies in China in certain industries.

An current example to illustrate the instability in Norwegian policies is the tax disagreement with Norwegian ship owners which started with the parliament in 2006 deciding ship owners should be treated according to EU regulations indicating zero tax under certain conditions, but the government sent a claim amounting to more than 20 billion NOK in deferred tax due to the Parliament decision. The case was in the Supreme Court in

Norway January 11 this year and the verdict are soon due to be published. Concurrently to this the Norwegian Prime Minister promises tax freedom according to EU regulations for ship owners who register their vessels under Norwegian flag and this with an almost identical political fractioned government in 2006 and 2010. Several ship owners claim to Norwegian and international press they have no trust in these promises from the government due to the ever changing policies. These changing ‘moods’ in the top political arena sends signals that the relations to China might change in the future, but for the time being the direction is closer top political relations between the two nations which suggest more opportunities and a better predictable political environment for businesses and business relations. One significant factor that still is related to increased risk is the extended administrative powers used to reduce number of official players involved in the political decision making process.

The first week of February 2010 the Chinese government informed that import restrictions on some key U.S. commodities will be implemented. The reason is Barack Obama’s planned meeting with Dalai Lama and because U.S. is selling weapons and weapon systems to Taiwan. This is considered by the Chinese government to hurt the good personal relation the American President has built with Chinese top politicians. These issues will obviously continue to occur from time to time on a top political level, even between Norway and China, depending on what relations and which issues are discussed. One thing is the facts of any conflict; another issue is how the conflicts are presented to the public in Norway and China. The latter is dependent on the informal part of the institutional perspective in Peng’s framework and what people in general want to perceive as the truth based on the cultural heritage and values in two different cultures.

Further discussion on the opportunity that occurs from increased mobility of the Chinese work-force is moved to chapter 5.3 due to the nature of the recent policy change. It is a political decision, but indicates de facto opportunities for Elkem M in the sociological environment section of the analysis.

5.2 Economic Environment

INTERNAL

Strengths

- Elkem relatively strong financial position.
- Credit availability and access to financial instruments for investments.

Weaknesses

- Restrictions from parent company, Orkla or Elkem, for investments in general?

EXTERNAL

Opportunities

- China support investments from foreign investors. Some regions give tax reduction.
- Wages and production costs favourable for export to world market.
- Erdos might provide Elkem M stronger financial credibility. BM3 similar effect.

Threats

- Interest rates / Exchange rates / Inflation?
- Weaknesses in the Chinese financial sector and possible future e.g. due to the challenges on privatisation of SOEs.
- Strong price competition on microsilica both from Chinese and Norwegian competitors due to increased supply.
- Global stock increase with possible increased future storage costs.

Even in during the financial crisis it seems obvious that the Chinese economy is strong and healthy, though some analytics have expressed some worries. Elkem and Orkla seem to have been managing well so far during the downturn in the financial markets. The Chinese government have allocated financial support to infrastructure projects in China and these economical dispositions have a positive effect on the global economy, DN February 02, (2010) and OECD (Feb 2009).

Strong price competition on microsilica both from Chinese and Norwegian competitors due to falling demand is creating some dilemmas for Elkem M. Fesil and Finn fjord are reducing prices to reduce the current surplus stocks of microsilica. Elkem M indicates that they may have to reduce prices temporarily as much as 18 – 20 % to keep their global market shares.

Changing market conditions will occur in the future as well, similar to the current situation with over-supply of microsilica that by far exceed the demand leading to lower prices and customers accepting lower quality microsilica due to the financial crisis. Long term observations of China have shown clear evidence that all these fluctuations in global markets and down turns in industries has been of less importance to the growth rate in the Chinese economy. It remains strong, though several argue that the growth cannot sustain indefinitely in time. Still the Chinese economy have had a relatively stable very high growth through many global financial crises the last 30 years and most agree that the potential to sustain the current growth, with proper government governance, can continue for several decades to come, see e.g. Wilkin (2004), OECD (2009) and World Bank report (2009).

Companies use China either as a strategic disposition to reduce production costs or to both reduce costs and enter the Chinese market. Elkem M have not been clear weather the company is using China as a low cost strategy, but the interviews with Elkem M strongly indicate the latter. China is becoming a huge market for infrastructure projects and in particular after the measures China has started to decrease the impact of the global financial crisis. It seems like mistake not to enter with full force into the Chinese market with silicon products. In cooperation with Erdos this seems as a good opportunity that most probably can increase performance in the current strategic mode compared the three other modes, not excluding the other modes. At any point of time in the future a combination of the four modes analysed here might be a driver for even stronger performance for Elkem M.

Erdos might provide Elkem M stronger financial muscle in China in a continued or expanded partnership with Erdos.

5.3 Sociological Environment

INTERNAL

Strengths

- Good relation with Erdos. Trust development.
- High technology competence in the ferroalloy and silicon industries.
- High management skills and long history in the global industry.
- Health, safety and social responsibility focused.
- Employee training programs.

Weaknesses

- Lack of ability to utilize Chinese flexibility and adaptability.
- Lack of understanding towards Chinese culture and norms?

EXTERNAL

Opportunities

- Implementation of social responsibility programmes to build trust.
- Invest in education in local communities where Elkem M is represented.
- Managerial education for local managers.
- Certification programs for operators and workers.
- Trust building through public infrastructure, pension funds and health-care plans.
- Implement Western Strategy Mind-set in Chinese partnerships.

Threats

- Age distribution in some regions might be a challenge.
- Erdos have developed strong competencies in the microsilica industry.
- Lack of due diligence if searching new partners.
- Perceived unequal incentive schemes between expatriate and local managers.

The strengths outlined are all trust builders both towards the formal Chinese institutions and maybe outside the immediate network and stakeholders in any of the four modes. Based on empirical studies of profit margins and performance in Chinese businesses the assumption is that a WOFE mode may make these strengths less important regards to increase the performance in Elkem M. It is self-explanatory that investments in public health and education will strengthen Elkem M's reputation in any local Chinese community, thus investments in the big cities most probably will require more focus on traditional marketing to build awareness and trust.

In chapter 4.2.4 the important difference of the notion 'perception of time' is between the Chinese and Western cultures and not to forget the concept of trust. Meland stated, in the initial meeting with Elkem M, that it would be useful to Elkem M to be able to adopt the Chinese flexibility and adaptability. The later interviews has revealed that Elkem managers involved in the board meetings and management of Erdos-Elkem finds it very challenging to deal with the quick and unforeseen decision-making by Erdos managers. It is quite common that this kind of cultural difference lead to dissolved partnerships between Chinese

and Western partners, e.g. Deloitte (2007) and Lipana et al. (2007). The importance of the somewhat common misunderstanding that China, as a long term oriented society, are perceived to be short term oriented due to quick decision-making common in Chinese firms may lead to lack of trust towards the Chinese partner. This particular difference in culture is very often reported to be misunderstood by Western managers, e.g. Luo (1997a) and Phillips (2001). This shown behaviours from Chinese managers is considered to be inconsistent with what Western managers understand is a long term perspective. The information from the interviews in Elkem M suggests that a cultural education programme for expatriate managers could be of importance if BM1 or BM2 is continued, maybe even more important if SSE or WOFE strategy is the future for Elkem M in China. Nevertheless, the research used for reference in this report suggests that this knowledge is best acquired within an EIJV.

The Chinese government have opened further to increase mobility of the Chinese work-force across regions. In any of the four modes this suggests that more parts of China can be used in the search process to employ more qualified workers. In a cost perspective this also implies that in case access to qualified workers is not there, a centralized training centre is a feasible solution to get well trained workers. This will definitely in any of the strategic modes be of importance to build trust in multiple regions of China, but local work-force should be prioritised due to the local authorities' incentives to approve investments that will improve the standard of living locally. Zhu have pointed out that central authorities may be a source to get approval even if local approval is not given, Zhu p. 27.

China with its almost 5,000 years of history is not likely to change their way of thinking strategy, Chee and West (2007) and Kim and Nam (1998). Efforts to implement a Western strategy mind-set in a Chinese partnership would most probably lead to trust issues and the possibility of loss of face for Western managers. Since harmony is a strong concept in Chinese culture, nothing is beyond repairable in a Chinese business environment if the alliances, guanxi connections and networks have endured for some time, see chapter 4.2.

It seems likely that Erdos is learning fast from the experiences they share with Elkem in Erdos-Elkem. The question on how Elkem can learn how to utilize Chinese flexibility and adaptability in their business strategies. It might be necessary to change some organisational structures, or develop programs where Erdos start educational programmes for Elkem managers. However, a better understanding of the Chinese culture from the foreign

managers might do the trick within the current governance and organisational structure. Leaving the EIJV strategy will with no doubt delay this important learning process.

Lack of understanding towards the Chinese culture and norms and how to adapt to both the long term perspective known to be a cultural feature in China and at the same time react to the quick decision making process by Chinese managers in Erdos.

The single most given advice in regards to legal related issues is due diligence, a process that might be time consuming and costly. Wolff (2008) points out several topics that should be considered by a proper due-diligence before choosing to enter a co-operation with a Chinese partner. Organizational structure of the target company, material contracts, land rights and use, main assets, finance, tax, labour and social insurance, IPR and technology transfer, productivity liability, environmental issues, foreign exchange control and legal proceedings. These topics are also suggested by Deloitte (2007) in the cases where they have acted as agents for FIEs in China. And it cannot be stressed enough that how the legal environment is in different provinces and local areas vary. In Southern and Western provinces the infrastructure is still lacking, and it is more likely to find more obstacles for successful investments in those areas. The central government has however several projects to build railroads and roads to these difficult to reach areas.

5.4 Technological Environment

INTERNAL

Strengths

- High end quality microsilica producer.
- Strong brand name.
- Strong marketing organisation.
- Elkem M's R & D history of innovation and product development.

Weaknesses

- Erdos produce low quality silicafume due to poor technological equipment.
- MA strategic modes decrease Elkem M's control on microsilica quality
- Administration of multiple Chinese partners in BM2.

EXTERNAL

Opportunities

- Introduce new technology into the Erdos partnership to get better silicafume quality.
- Inside opportunity to improve the silicafume quality within the Erdos/Elkem EIJV.
- Protect high quality microsilica in a BM3 or BM4 strategy.

Threats

- Low cost and low quality producers in the global market.

Elkem M has long traditions of developing new improvement technologies as was done e.g. in 1976 in Zambia when silica was used to recover cobalt with an approximate 50 % cut in energy consumption, Whyte (2009). The team hired to develop the new technology consisted of individuals with talent and personality capable of realize radical improvements within a short timeframe and used a back to basic approach to develop radical improvements in the production process.

The willingness to share key technology in a partnership and how to share it with partners and within an alliance structure can be a great challenge to decide. Assuming microsilica is a relatively standard commodity easy to replicate by competitors it is other factors that seem more important to focus on, like the distribution and sales. However, since quality of the end product can vary according to the quality of the silicafume, it is a potential for improvement and differentiation from competitors. Elkem M have several options on how to do this, ranging from MAs, where Elkem M have less control with the quality of the finished product, to a WOFE where Elkem M have full quality control. A key to gain access to regulated markets in China is to apply to the standards of the National Development and Reform Commission (NDRC), Zhu p. 24. Seen in the perspective of the sociological environment analysis, chapter 5.3, and the informal institutions chapter 4.2, e.g. chapter 4.2.2, it seems to be a good idea to include a Chinese partner in an EIJV mode and share technology. Further aspects of this conception are discussed in chapters 4.4 and 4.6.

5.5 Environmental Environment

INTERNAL

Strengths

- Elkem and Elkem M high focus on emission reduction.
- Location of production in China of little importance.

Weaknesses

- Investments in rural regions gives longer hauls to central shipping hubs

EXTERNAL

Opportunities

- Strict emission control policies
- Erdos investing in increased environmental friendly production
- China plan to be in the forefront on carbon dioxide capture and storage

Threats

- Land use restrictions.
- Central and local emission restrictions.
- Infrastructure; lack of roads or railroad access.

The Chinese government are enforcing policies in almost all industries in China to keep pollution at a minimum, though the increased central investments in infrastructure will create more emissions. Nevertheless, China is one of the countries in the world with the strongest regulations and emphasis on environmental friendly industry and will welcome any foreign investor that can add technology and knowledge that can reduce demand for power and emissions to the surrounding environment. Per capita, China must be considered very competent on carbon dioxide and NOX emission reductions as compared to Western countries. However, the share size of the Chinese population and the amount of industrial production is a challenge when attempts are made to keep emissions at an acceptable level. Any effort from foreign investors to reduce these negative effects of industrial production will surely increase the possibility for high performance of investments in China e.g. increased opportunities to gain access to land, resources and investment incentive plans similar to the tax incentives given for investments in the autonomous Inner Mongolia .

Investments in multiple rural regions give longer hauls of finished microsilica to central shipping hubs thus creating more emission (applicable to all modes).

Strict emission control policies (both economical and social in nature) will create a competitive environment which in that Elkem M and Elkem can gain competitive advantage by staying best in the league.

Erdos is also investing in increased environmental friendly production, e.g. with the JV with China Recycling Energy Corp., to collect waste heat from production to produce power to reduce the need of coal power to the furnaces. This gives clear indications that Erdos is interested in developing more efficient technologies, thus gives Elkem M opportunities, within the current EIJV, to aid in increasing silicafume quality and propose more environmental friendly production technologies to Erdos.

Norway has a 40 year perspective to introduce zero carbon dioxide emission and few efforts seem to be made politically to introduce new technology gradually, it is either a “zero emission today” perspective, or a “use the technology we have available today” perspective that seems to be the most leading political views in Norway. Last is the new delay of investment in a 60 % emission reduction at the gas power plant at Mongstad where the politicians want a total emission reduction technology implemented. China has a continuous improvement approach.

5.6 Legal Environment

INTERNAL

Strengths

- Detailed contracts and agreements written in Chinese with Erdos?

Weaknesses

- Lack of detailed contractual agreements written in Chinese?
- Lack of good connections to relevant judicial administrative entities?

EXTERNAL

Opportunities

- Investments in China subject to approval of the Ministry of Commerce (MOFCOM).
- Investment <USD 30 million subject to local considerations, thus MOFCOM might take precedence over local decisions
- IPR protection through MOFCOM.
- Counterfeiting is less common in China, compared to the size of the markets

Threats

- Norwegian vs. Chinese legislation.
- The Chinese judicial system is huge, complicated and a constantly evolving system.

Legal statistics is relatively reliable sources and the latest information from China seem to show very clear that the main difference today is not that the political and legal system in China are behind any Western political and legal system in competence and the efficiency of these institutions. See Chen (2007) for statistics on cases tried in the legal system and the time spent to solve them within the laws and regulations and Wolff (2007). Comparing Chinese and Western figures shows that the Chinese legal system with no doubt is catching up with their Western counterparts, if not even shows a lot more efficiency in how many cases they process and what percentage of court cases that are not ended within the first year.

The formal legal institutions in China are undergoing a tremendous development to support further growth and stability in a huge national environment. Chen (2008), Dong (2008) and Chow (2003) all depict a revolution of the judicial system the last 15 years. The formal educational level of judges and judicial personnel has increased rapidly, and from late 1980s the judicial personnel has changed from employees with former military background to employees with relevant judicial education and experience. The Supreme People's Court (SPC) has been given the task by the Central Committee of the Communist Party (CCCCP) to further strengthen law enforcement and in time the intention is to make the courts fully independent of the Communist Party. Local conditions in the courts must however still be considered of great importance, as it is perceived as a challenge that local and regional courts sometime seem to interpret laws in accordance to local and regional culture and history rather than according to decisions made by the Supreme Court. Compared to court systems in the Western world, the Chinese seems to follow a similar pattern in the

development of the legal institutions. All legal systems are more a result of the culture and history of the environment which they operate in, rather than making decisions according to the letter of the law. Business cases are by nature often extremely complex and may imply difficulties for courts to decide exactly what will be a correct decision according to the laws considered. This is similar to what we see in many cases involving big companies in Western courts. Because of the share size of the PRC legal system, the task to make the Chinese lower and intermediate courts and judicial entities part of, and loyal to, a centralized Supreme Court a huge and tremendous challenging task. Comparing China's cultural diversity to the cultural diversities within Europe, makes it reasonable to assume that the chances for local and regional differences on interpretation of laws by the courts in different regions of China will differ, thus increases the judicial risk aspect. Zhu p. 36 discusses this aspect as to how it will affect governance cost for Elkem and Elkem M. However, it is very difficult to measure the cost exactly with these local and regional differences.

Using the business and investment perspective, it seems more risk mitigating to diversify

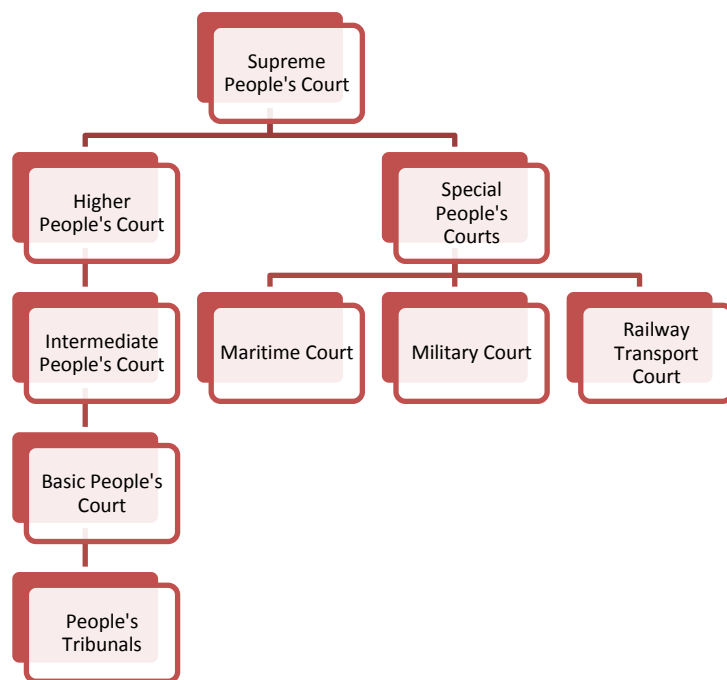


Figure 8 - The Structure of the Court System in China

investments throughout different regions of China. The big question is: How this will affect performance in each of the strategic modes within the scope of this report is hard to predict within the scope of this report. Still many Chinese judicial experts consider political, economic, social and cultural settings of great importance on how law enforcement is enacted in China, if not the most important factors. Research on European

countries law and justice argues likewise with similar arguments. Law and justice cannot be understood unless it is seen in light of the historical and cultural setting which in it operates. As in the case of the Chinese political system, the National People's Congress (NPC) is the supreme institution in the Chinese legal-/judicial institutions. The relationship between the party and the administrative- and bureaucratic authorities are more or less identical to those

of the NPC and the courts. The NPC is the top authority in the legal and judicial system as well and the courts have also developed judicial administrative systems similar to the other administrative systems to optimize the organization and structure, Chen (2008). Chen suggest a slightly different approach to describe the structure of the legal/judicial system in China, but in general as it is shown in Figure 8.

The relevant system for business entities and IPR cases are handled by the People's Courts, except in cases involving questions on maritime disputes and disputes related to railways. To what extent these laws might be applicable to Elkem M's operations in China is not considered in this report. In the past, the general laws have been emphasized by the higher courts, rather than specific laws concerning e.g. EJV's and FDI's. The same trend has been observed in cases where market agreements have been used as business model for co operations between foreign and Chinese companies.

One of the main concerns of the legal system in China is de facto that it seems difficult to increase the independence between the court system and the administrative- and procuratory systems. This is the single area where there is no immediate evidence that the Chinese government will put efforts in to change the close connections. In some regions the police are part of the procuratorate system.

Counterfeiting is less common in China, compared to the size of the markets, than what it is in Western and other Asian markets, WTO (2010). Most Chinese IPR court cases are Chinese vs. Chinese companies and several Western companies have won cases in the legal system.

In a legal perspective the multiple new partners approach, BM2, with a detailed contracts and agreements strategy seems most likely to become a strong point to Elkem M both for keeping potential conflicts out of the court system and to enable conflicts to be solved in a peaceful manner between partners to retain harmony.

The judicial system in China is a huge, complicated and a constantly evolving system and might send some surprises that complicate any efforts to identify the relevant safeguarding parameters as to who is the actual judicial entity in power in different regions.

6 Summary

China has a 5,000 year old culture and history which has developed some strong cultural specifics that is not easily changeable, though the open door policy, serve as a facilitator for major cultural changes in some areas of China. The old heritage from the dynasties, Confucian and communism will play a major role in how Chinese businesses act in the markets. All this history is still a major contributor to the informal institutions in China. It seems to be observed that younger generations have a stronger tendency to change than the older generations, and with the age distribution of increasingly larger elderly population this heritage cannot be ignored by Western business managers. The cultural attributes of trust relationships, *guanxi*, harmony and the concept of time should be in any manager's mind.

Zhu analysed two different business models to approach the challenges facing Elkem in its EIJV with Erdos. In BM2 the proposal is to sell shares in the Elkem-Erdos JV and convert the equity venture to a market agreement. One of her conclusion is to avoid any attempt to build too close political and administrative relationships with individual public employees both at central and local levels. Individuals can be change their position and new individuals appointed as responsible for Elkem's particular area of business. This might, in many cases, imply different enforcement of policy in a future business environment. Hence, it is crucial to build and maintain good relations to both local and provincial and federal officials to secure the expected return of any investments in all BMs, including BM3 and BM4. The latter is supported by e.g. Chen (2008), Wolff (2008) and Deloitte (2007). It might seem that this is not applicable to top level relationship, which seems less vulnerable for changed personal conditions as observed in the FUDA-Kodak case.

Other parameters, identified in this report, are the fear for IPR infringements in the ferroalloy industry in China in particular. Documented copyright infringement cases counts for a very small portion of the market, assumed to about 1 % of the market's total value. Western companies, mainly in consumer based business areas, have won cases, but are compensated less than they claim for compensation by Chinese courts. Further is the interesting observation that the EIJV mode seems to harvest higher return on investments in China than the WOFE mode. Foreign ownership shares between 47 and 64% are discovered to be optimal, found by Li (2005), Buckley et al. (2006) and Greenaway et al. (2007). Doz (1998) found circumstantial evidence that Chinese-Scandinavian EIJVs is probably the best equity combination in China. A good match for the cultural dimension differences between China and Scandinavian cultures is the only obvious explanation. Last is the

assumed size- dissimilarity between Erdos M/Erdos and Elkem M/Elkem. Figure 5 shows a fairly equal size in revenues and number of employees in the companies, included in the parent companies. There is no apparent proof found that suggest the size difference need special considerations by Elkem M, though the situation might change in the future.

The main objective with this report is to discuss the four strategic modes related to factors identified by Elkem M managers. The four tactical modes are:

1. Continue and develop the current EIJV with Erdos.
2. Market agreement (MA) with Erdos and invest in other EIJV Melting Plants in other regions of China.
3. MA with Erdos and register Elkem M at the Shanghai Stock Exchange.
4. MA with Erdos and a Wholly Owned Foreign Enterprise strategic mode in other regions in China

These modes have been analyzed with six identified concerns of Elkem M in mind:

1. Political relations on central-, regional- and local levels.
2. Legal considerations regards to market agreements and IPR protection.
3. Parent dissimilarities that might be important to focus on the EIJV strategic mode.
4. Control of the quality of the silicafume from the different strategic modes.
5. Cultural differences Norway vs. China and how they may impact Elkem M.
6. The sociological environment regards to recruitment and training of qualified workers and managers in China

The size dissimilarity between Erdos M and Elkem M and their parent companies seems to be more of a strategic advantage, rather than a challenge. Elkem M has access to 54 furnaces in one location gives Elkem M opportunities to exploit the relationship between the size of Erdos' production facilities in Inner Mongolia and Elkem's strong global market position. This difference can be a measure to leverage market shares in several markets as the production in the global market increase. Not to forget the opportunity to gain economy-of-scale advantages.

Figure 9 sums up the main findings for BM1 through BM4 in a SWOT table.

Considering the current tactical mode where the primary focus for Elkem M is the EIJV with Erdos we can see that an internal strength is the good relations with Erdos M. A weakness with the BM1 configuration is the transaction cost of persuading Erdos M to increase the technical quality of the silicafume. The interviews imply that the level of

cultural understanding towards the Chinese culture on Elkem management level could be better. The expedient to meet this weakness can be a cultural training program for Elkem M managers. Moreover, a procedure for bi-directional knowledge transfer may also be used to meet this challenge. These two measures might strengthen the possibility for future integration of Chinese flexibility into Elkem M's operations in China and increase the level of implementation of a Western strategy mind-set into Elkem M's Chinese operations. The latter however, seems to fall through as a risky policy in all modes, but might be implemented in a BM3 and BM4 mode with careful considerations of the Chinese cultural heritage. The Chinese notion of strategy is several thousand years old and is in any sense as good as the Western notion of the term, which in turn might induce the Chinese managers to feel less about themselves. This is most probably, in any mode, not a situation Elkem M can benefit from in a long term relationship with Chinese employees and with regards to the findings on Sino-Scandinavian EIJV's performance it seems a better tactical disposition to mix the two cultures.

An evaluation of the alternative business modes in China furnish evidence that it might be related to greater performance to stay in a BM1 mode as opposed to a BM4 mode at the other end of the scale. The latter seems to carry more risks in a Chinese business environment, as it will in any market. In the performance perspective this seems that a decrease in performance is equally applicable from BM1 towards BM4. This observation contributes to an assumption that each mode needs a different set of measures to be optimal and according to Elkem's strategy.

The main challenge in today's market seems to be the relatively rapid growth in microsilica supply on the global market, not forgetting the financial crisis which in turn creates less demand for microsilica in general and in particular high end Microsilica[®]. The question is more a matter of which countermeasures should be taken with these changes. Elkem's history shows examples of many world-class R & D efforts; the Rokana cobalt plant in Zambia is one example. Besides, with a strong marketing organisation the opportunities to develop new markets in Asia and China should be achievable.

Regards to the business models researched BM1 seems to need more focus on cooperation networks, both internal business areas networks and external towards Erdos. Internal networks to achieve optimal performance and a better utilization of new opportunities in China for other Elkem and Orkla business-areas. The planned construction of a 2 GW solar

Figure 9 – SWOT summary

	BM1	BM2	BM3	BM4
Strengths	<ul style="list-style-type: none"> • Global market share • Premium price • Relatively high profit margin • Guanxi established with Erdos • Uncertainty Avoidance and Masculinity/Femininity difference 	<ul style="list-style-type: none"> • Global market share • Interpret political signals • Uncertainty Avoidance and Masculinity/Femininity difference 	<ul style="list-style-type: none"> • Global market share • High quality silicafume • Premium price • In-house R & D • Control silicafume quality 	<ul style="list-style-type: none"> • Global market share • High quality silicafume • Premium price • In-house R & D • Control silicafume quality
Weaknesses	<ul style="list-style-type: none"> • Control silicafume quality • Knowledge transfer from Erdos • Low quality silicafume from Erdos • Cultural understanding and knowledge level 	<ul style="list-style-type: none"> • Control silicafume quality • Cultural understanding and knowledge • Administration of multiple partnerships 	<ul style="list-style-type: none"> • Guanxi central-, regional- and local government institutions • Political relationships • Ability to utilize Chinese flexibility • Land right approvals • Relationship with legal entities • Uncertainty Avoidance and Masculinity/Femininity difference 	<ul style="list-style-type: none"> • Guanxi central-, regional- and local government institutions • Political relationships • Ability to utilize Chinese flexibility • Land right approvals • Relationship with legal entities • Uncertainty Avoidance and Masculinity/Femininity difference
Opportunities	<ul style="list-style-type: none"> • Erdos' size is hard to imitate • Integrate Chinese flexibility • Compete in China to strengthen global competitiveness • Connect to related industries in China (Erdos) • Uncertainty Avoidance and Masculinity/Femininity difference • Top political support 	<ul style="list-style-type: none"> • Build lobby strength • Uncertainty Avoidance and Masculinity/Femininity difference • Top political support • Lobby with multiple partners 	<ul style="list-style-type: none"> • Top political support • Trade agreement China-Norway • Relative political stability • IPR protection • Implementation of company specific strategy mind-set 	<ul style="list-style-type: none"> • Top political support • Trade agreement China–Norway • Relative political stability • IPR protection • Implementation of company specific strategy mind-set
Threats	<ul style="list-style-type: none"> • Current oversupply of microsilica • Low price competition from global competitors • Unfavourable judicial decisions • Unfavourable political decisions • Changing Norwegian government might change trust relationship 	<ul style="list-style-type: none"> • Low price competition from global competitors • Similar products in performance • Unfavourable judicial decisions • Unfavourable political decisions • Changing Norwegian government might change trust relationship 	<ul style="list-style-type: none"> • Lobby strength • Low price competition from global competitors • Regional age distribution workers 	<ul style="list-style-type: none"> • Lobby strength • Low price competition from global competitors • Regional age distribution workers

power plant in Inner Mongolia is one example where Elkem Solar can gain from Elkem M's trust relationship and guanxi with Erdos.

For the political considerations it should be mandatory for Elkem M managers to attend any meeting Erdos attend with political, administrative or judicial representatives as an opportunity to build relationships and guanxi towards formal institutions. Investments in local infrastructure and a solid HR policy to show corporate social responsibility is also a major contributor to a good relationship to these institutions, maybe more in China than in many other countries.

For BM2 a strong focus on procedures to administer multiple partners stands out as a factor that might decrease Elkem M's performance in China. This might facilitate the lobbying capabilities for Elkem, but more attention to each of the factors under BM1 would be multiplied with the number of EIJV partners. As a conclusion to this it might be said that the transaction cost with several smaller partners might be more costly than the current BM1, thus the risks are reduced with several partners. However, the return of investment will most likely be reduced in BM2 compared to BM1 if the used research applies to Elkem M's specific strategic mode in China. Zhu argues that due diligence is not a sufficient instrument to ex ante identify appropriate partners, however the approach of this report have found evidence that due diligence can be used as an effective and efficient tool if the process is conducted after certain criteria. This procedure includes brief screening of many possible partners, then select of a few of the best prospects and conduct a deep due diligence screening.

The top political relations and support for Norwegian investments in China is a factor that might reduce risks in China. BM3 might create more opportunities for Elkem M in China if the strategic mode is considered more important in itself as a competitive advantage compared to BM1 and BM2. To achieve an equally good performance as for BM1 the focus should be more on knowledge transfer between the Norwegian home management and relations to Chinese government bodies. More effort on lobbying is a probable outcome for BM3 than the two previous modes. Learning Elkem the Chinese way of business will fall upon Chinese Elkem managers if there are no equity partners to learn from and internal procedures should be in place to maintain relationships with all external interest holders. The implementation of a Norwegian mind-set is in any respect a difficult task in China as the culture should be considered for Chinese managers as well.

Chinese companies tend to want a win-win situation and seem more eager to continue long term strategic relationships partly because it is important to have a good record of stable partner experiences to facilitate for easier access to future new partnerships and new alliance formations in the Chinese business environment.

Most of the risks and focus areas from BM3 is applicable to BM4 with the obvious difference that there will be no Chinese investors to rely on when cultural specific challenges occur. This implies that even more focus should be put in learning Norwegian managers the Chinese business environment.

China has does enforce well drafted contracts written in Chinese more often today than only a few years ago, Wolff (2008), Chen (2008), yet there are still some risks of expensive legal procedures in some region. But the system is improving rapidly as to the educational level of judges and judicial officials. Most conflicts are solved outside the judicial system because of the cultural specific notion of harmony, or ‘the middle way’ approach to conflicts, i.e. the wish to create a win-win situation to keep a long term business relation in good terms. The weakness of law enforcement was criticized by national and international law experts. Whether law enforcement departments in China deal with every case strictly and in time according to law, and how it can risk Elkem’s business in China.

Recent policy changes increase flexibility and movement of work-force from region to region in China and makes it more likely to increase performance in BM2. This is a slightly different conclusion than what Zhu argues in the human asset specificity dimension, Zhu p. 11.

7 Limitations

This report is by far a full strategy analysis. It should first be seen as an extension to Zhu 2008, second as a small additional supplement to the process of analysing and reporting a full analysis aimed towards Elkem/Elkem Materials strategic decision-making process in China. The PESTEL analysis is not a full strategic analysis and should be treated as such, included the conclusions and suggested measures for each of the business models included in the analysis.

As pointed out several times, PESTEL should be done in a group environment, preferably multi-disciplinary, within Elkem M. Many important issues has not been considered in the analysis as it can only be done as an effort by employees from different levels within Elkem M and Elkem and with good knowledge also of internal factors relevant to the analysis. Many of these factors are hard to grab as an outsider. So this report could be considered as a guideline for further strategic analysis, which in any case is an ongoing effort to adapt to an ever changing landscape.

Equity mode Cross-shareholding has not been discussed in this report and would be very interesting to discuss and analyse as it may contribute to both performance and ability to cooperate between Chinese and Norwegian business cultures.

“China is an open country. Chinese people are broad-minded people. Chinese companies are willing to cooperate and grow with the world’s leading peers on the basis of equality and reciprocal benefit.”

Zong Qinhou, Chairman Wahaha Group 2009

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