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**CROSSING THE CHASMS BETWEEN FINLAND AND CHINA
-A FINNISH SME ENTERING CHINESE MARKET**

Master's Thesis

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ABSTRACT

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The demands for solving the air quality pollution problems in China have provided Finnish SMEs great opportunities and chances for expanding business in the market. The Finnish SMEs, however, are facing the biggest challenge how to enter the mainstream market in China, besides the cultural and legal differences. This study is based on the assignment of the case company and the goal is to find ways how the company can successfully expand the Chinese market and indicate the action plan.

In order to address the question, the study developed a theoretical framework on the factors needed in entering the Chinese market and applied this framework in the case company. The empirical research was based on the use of existing materials and action.

The results of the study provide a practical model for companies crossing the chasm between early markets and mainstream markets. A step by step process includes all the phases from choosing the target market to sales of the company itself. One important point for the company to cross the chasm between early markets and mainstream markets is identified as whole product development, including the product the partners. The other one is the positioning itself, achieving the leadership in the selected segment.

Results of the study raised many interesting topics for further research. In order to generate more market shares and revenues, how to move from the visionaries to the conservative in the Technology Adoption Life Cycle can be studied in later phase. The second topic can be choosing the next target market in order to achieve the sustainable development of the company. Recommendations can be made regarding how the company can successfully cross the chasm between early markets and mainstream markets.

PREFACE

The topic of the thesis is chosen together with my employer Pegasor Oy. The company is looking for the business opportunities in China. I am personally interested in the marketing strategy study, especially for the Chinese market because of my Chinese background.

I expect my thesis is not only one academic paper, but is also practical for the Finnish industry. When the two desires combined, we found the current topic. Working, carrying out the study and thesis at the same time is challenging. But it is always motivated by the progress in China market step and step.

The thesis was done in the help of many people. First of all, I want to thank Professor Miia Martinsuo and Assistant Professor Leena Aarikka-Stenroos for the guidance and provide such interesting topic and ideas. Second, I would like to thank for Finnish MMEA (Measurement, Monitoring, and Environment Assessment) program, providing the platform for carrying out the study and practice of environment business, R&D cooperation between China and Finland.

I want to show my great thanks to my supervisor in Pegasor, Mr. Markku Rajala, who is with endless energetic and high work efficiency, always encourages me to think, argue and do it. I would express my appreciation to all the colleagues in Pegasor companying the whole way of the work. Thanks are delivered here to Juha Kaartinen, Anna-Mari Hallinen, Kauko Janka, Jan Landkammer, Juha Järvinen.

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LIST OF ABBREVIATIONS

CCC: China Compulsory Certification

DPF: Diesel Particulate Filters

EPB: Environment Protection Bureau

GDP: Gross Domestic Product

IPR: Intellectual Property Rights

IOT: Internet of Things

MEP: Ministry of Environment Protection

MOST: Ministry of Science and Technology

OBD: On Board Diagnostics

PEMS: Portable Emission Monitoring System

PESTEL: Political, Economical, Sociocultural, Technology, Ecological and Legislative.

PPS: Pegasor Particle Sensor

SMEs: Small, Medium Entrepreneurs

VAT: Value-added Taxes

1. INTRODUCTION

1.1. Background

China is considered as a great economic success story in the past three decades. Since 1978, China has been experiencing an astonishing pace growth, becoming the second largest economy after United States, both in terms of nominal gross domestic product (GDP) and purchasing power parity. (EU SME center; Jha & Golder, 2007; Rawski, 2011) There are several milestones in the history of China after the ‘reform and opening-up’ policy established which are showed in Figure 1.

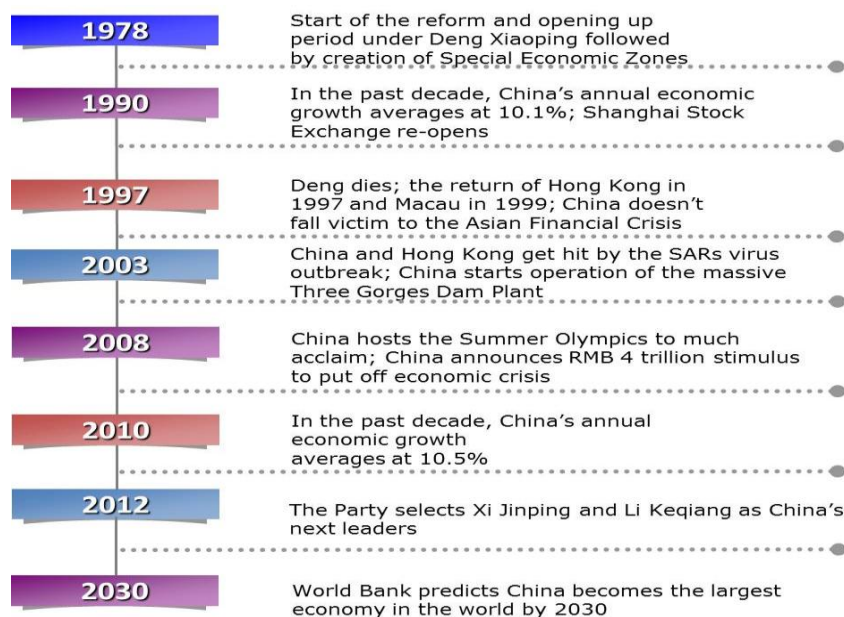


Figure 1. Milestones of the Economic Development of China (Source: EU SME Centre)

China has become an industrial powerhouse, lifted hundreds of millions of citizens out of poverty, and created a growing middle class with rising levels of prosperity (Beebe et al., 2013). World Bank predicts that if the trend continues, China will have attained the largest economy in the world by 2030.

The progress, however, comes to a high sacrifice of environment, e.g. the polluted water resources, high carbon emission, climate change. What makes the situation worse is the serious air pollution seen in 2012-2013. In January 2013 alone, 25 days in Beijing were categorized as unhealthy, very unhealthy or hazardous according to World Health Organization (WHO) Air Quality Guidelines. Beijing has an ambitious target to reduce concentration of potential harmful PM2.5 particulates (particulate matter smaller than

2.5 micrometers) by 15% from 2010 levels by 2015 (Ma, 2013), and to achieve a 35 $\mu\text{g}/\text{m}^3$ annual average by 2030 (Beijing Evening News, 2012).

The human and economic costs of the pollution are increasingly clear. A joint study by Peking University's School of Public Health and Greenpeace East Asia found that in 2012, more than 8,500 premature deaths resulted from PM2.5 air pollution in Beijing, Shanghai, Xi'an and Guangdong. Meanwhile, the Ministry of Environmental Protection's Academy of Environmental Planning calculated losses in 2010 due to pollution (excluding the cost of health care) to be 1.1 trillion RMB- equivalent to 3.5% of GDP (South China Morning Post, 2013).

Air quality problem has become the hot spot in the whole society, that the government and public pay enormous attention to the air quality monitoring and solutions. The 12th Five Years Plan (2011-2015) provides a powerful starting point for addressing China's environmental and energy goals, especially for the air quality issues, with supporting regulations and guidelines.

In September 2013, the State Council has issued 'Atmospheric Pollution Prevention Action Plan, which proposes to 'improve overall air quality across the nation through five years (2013-2017), reduce heavy pollution by a large margin and make obvious improvement of air quality in Beijing-Tianjin-Hebei Province, the Yangtze River Delta and the Pearl River Delta. In specific, by 2017, the level of inhalable particulate matter in cities above prefecture level shall be dropped by at least 10% against 2012 level. Ministry of Environment Protection (MEP, 2013) announced that the level of fine particulate matter in Beijing-Tianjin-Hebei Province, the Yangtze River Delta and the Pearl River Delta shall be cut by 25%, 20% and 15% respectively and the annual concentration of fine particulate matter in Beijing shall be kept at 60 $\mu\text{g}/\text{m}^3$ '.

The rapid and continuous development of the country has attracted numerous Finnish companies to explore business opportunities in China. Meanwhile, the environmental problems and challenges China are facing nowadays also provide more opportunities for introducing Finnish experience, high technologies and products etc. to the market. Team Finland will most probably pay lot of attention to the growth markets (Makkonen & Cheng, 2013), as well as many Tekes projects often focus on China mainland market. One good example is the '2014 Finland, Tekes and China, Ministry of Science and Technology (MOST) Joint Call for Proposals for Industrial Cleantech R&D Projects'. This cooperation provided the Finnish companies opportunities to collaborate with Chinese companies in the national level. The cooperation applies not only for the technology, but also for the potential business.

1.2. Business Environment in China

In this global world, where companies are constantly relocating themselves, managers must understand certain important aspects of the new regions or counties where their companies are planning to expand their business. This understanding can be reached with the use of PESTEL Analysis. PESTEL analysis is a useful tool which identifies six important dimensions in the external environment.

Through the discussion of the conditions in the six dimensions, an overall evaluation about whether the external environment is beneficial for the survival and development of a specific enterprise or industry could be achieved. The PESTEL analysis tool could be traced back to the ETPS analysis in Aguilar (1967), in whose work the economic, technological, political, and social factors are included in the tool.

For the purpose of gaining comprehensive understanding of external environment in the target market, it is essential for companies to carry out PESTEL analysis prior to entering the new market.

Political Environment

Political environment is described as a sum of all sorts of political forces that will influence to business (Odunlami, 2010). Businesses operate in different countries, and different countries have different government system and legislation. An important part of any business decision is assessing the political environment in which a firm operates.

Laws and regulations passed by any level of government can affect the viability of a firm's operations in the host country. Minimum-wage laws affect the price a firm must pay for labour; zoning regulations affect the way it can use its property; and environmental protection laws affect the production technology it can use as well as the costs of disposing of waste materials. Adverse change in tax laws can slowly destroy a firm's profitability. (Griffin & Pustay, 2007, p. 70-71)

In recent years, the modern political environment sprung up and gradually went deep into every aspect of political life. The stable political environment in China is conducive to the development of different industries. Since the stable political environment creates a good business foundation for the entry of foreign enterprises, therefore, more and more foreign enterprises intend to enter Chinese market (Shah et al, 2014).

Economical Environment

Political decisions quite naturally impact the economical environment within a country. Economic factors may also be limited to the home country, but as global trade continues to grow, economic difficulties in one nation tend to have a broad, often worldwide,

impact. Examples of economic factors could be the level of growth within an economy, or market confidence in the economies within which the organisation operates (Cadle et al., 2010). Economic factors include assessing potential changes to an economy's inflation rate, taxes, interest rate, exchange rates, trading regulations, and excise duties (Team FME, 2013).

After fighting for the progress of Chinese economy for thousands of years, the enhancement of Chinese economy gradually gives rise to the advancement of people's living standard. In this regard, Chinese market possesses higher economic capability to accept more industries, which is able to push them to gain sustainable development in Chinese market. It to some extent encourages the companies in other countries to develop new market in China. It provides strong developmental motivation for foreign companies to start its business in Chinese market.

Sociocultural Environment

In addition to political and economical factors, there are also sociocultural factors impacting the business environment. Socio-cultural factors are those arising from customers or potential customers and examples could be demographic issues such as an increase in the number of working mothers, or consumer behaviour patterns such as the rise of disposable fashion (Cadle et al., 2013).

Population, as one of sociocultural factors, will cause significant impacts on business. China has 1.5 Billion people, which could form huge demand for industrial and consumer products. For the same reason, huge population also can bring more labours for industries. In addition, Chinese people have positive attitudes for foreign products, especially from Scandinavia countries, e.g. Finland. In the eyes of many Chinese people at current stage, Finnish products are one of the typical symbols of the good quality, high technology and professional design. Therefore, Finnish companies could obtain good sociocultural development environment in Chinese market.

Technological Environment

Kotler (2000) illustrated that one of the most dramatic forces shaping people's lives is technology and every new technology is a force for 'creative destruction'. New technology creates major long-run consequences that are not always foreseeable (Kotler, 2000, p.148-150). Some of the main aspects related to the technological environment are: 1) government spending on research, 2) new discoveries/development, 3) speed of technology transfer and rates of obsolescence (Lyly-Yrjänäinen et al., 2010).

In many countries, government takes the financial risks related to research, so companies can focus on the actual product development. Traditionally, the developed countries have been considered major sources of innovations but developing countries

like China, India and Brazil have rapidly increased their innovation capability. (Lyly-Yrjänäinen et al., 2010)

As is seen in current society in China, network and technologies has been witnessed rapid development and had been massively applied to all kinds of industries in the society. The advanced technology cannot only enable enterprise to facilitate the manufacturing and promotion process but also create better marketing environment for enterprises to market their products. From this point of view, the present technological environment in China is beneficial to the development of foreign companies' business in the market.

Ecological Environment

In today's world, the importance of environmental issues has taken new heights. All organizations have environmental impacts, with heavy industry producing the most visible emissions, including some that are regulated under environmental legislation. However, other organizations, such as offices and retail outlets also have an impact on the environment. They all use resources dispose of waste and produce 'green-house gases' from the energy used in lighting, heating and transport (Campbell & Craig, 2008).

At current stage, China is facing different environment challenges. Take the air pollution for example, all of the cities in China in 2015 have failed to meet World Health Organization air quality standards, and the people are concerned about the air quality. MEP has analyzed the chief sources of air pollution in nine major cities across China and found that vehicles were the largest contributor to air pollution in at least five cities: Beijing, Shanghai, Hangzhou, Guangzhou and Shenzhen (MEP, 2015).

Legislative Environment

These factors have both external and internal sides. There are certain laws that affect the business environment in a certain country while there are certain policies that companies maintain for themselves. Legal analysis takes into account both of these angles and then charts out the strategies in light of these legislations. For example, consumer laws, safety standards and labour laws. (PESTEL Analysis, 2014)

Chinese government formed own particular supervision and regulations for environment and industry. Finnish companies should also take this factor into account while proceeding business in Chinese market and respect the specific regulations for specific industry. For instance, in the air quality monitoring industry, the enterprises should place high inspection on the standard monitoring principle and method.

After analyzing the six factors (PESTEL), the rise of China and the business opportunities are easily acknowledged, and along with the rapid development of Chinese economy, more and more foreign enterprises regard Chinese market as a big

market to expand their international business. Meanwhile, there are still obstacles for foreign companies, especially for the SMEs, to enter into Chinese market. This includes limited human resources, capitals, understanding the different cultures, as well as legal process, etc. An obstacle identified in this the discussions above can be described as the market chasm, which is a concept proposed in Moore (1991). This concept will be applied and discussed in detail in other sections in this article.

When a certain enterprise tends to enter foreign markets, it is vital for select effective market entry strategies. Market entry strategy refers to planned approaches that a certain enterprise uses to deliver goods and/or services to a foreign market and then distribute them there (Martorell et al., 2013). The selection of marketing strategies should be based on an enterprise's own condition as well as the condition of the external environment. Existing literature shows that among those factors existing in the internal and external environment, some are closely related with an enterprise's marketing strategy. For example, Rogers (2003) and Kotler & Keller (2006) discuss the selection of marketing strategy for sectors that emphasise innovation; Sengupa (2004) and Knetzquer & Muraski (2007) mention the marketing strategies in the high-tech market. The cultural factors' influence which should also be taken into consideration in decision-making process is discussed in Robbins (2003), Robbins & Judge (2010), Buchanan & Huczynski (2010), and Schein (2010).

But the most important and challenging question is how to transfer the new technology and products from foreign countries to China for the mass use. When dealing with industrial products or high-tech equipments, the technological environment becomes an especially important issue (Lyly-Yrjänäinen et al., 2010). According to Moore (1991), this is a question related to Technology Adoption Life Cycle, which is a method of understanding the acceptance of new products for the high-tech marketing model.

The idea of this model is to keep the process to the market moving smoothly, preceding something like passing the baton in a relay race or imitating Tarzan swinging from vine to well-placed vine. It refers to the way to develop a marketing strategy in the high-tech market. In reality, not all the technologies and products can go through the technology adoption life cycle smoothly, many companies died in the early stage (Tibben-Lembke, 2002). In order to be successful in certain industry, the company need to plan the marketing strategy steadily.

This study will focus on the market strategy of combination of how to cross the chasms between Finland and China, including the market, culture and legal issues. Since entering into a foreign market requires more investment and there will be more uncertainties, SMEs face more challenges when they try to enter these markets. This study will focus on the approaches that companies take to overcome the chasms between different markets. More specifically, this study will focus on the relevant

cultural and legal issues that SMEs coming from Western countries will face in China. SMEs coming from Finland will be used as examples. Finnish SMEs' strategic planning for expanding their business in the Chinese market will be analysed. The findings of this study will also be applicable to a wider context because of some of the major concerns for companies to cross the chasm between different markets are universal.

1.3. The Case Company Pegasor

This study will conduct the discussion of how to cross the chasm between different markets from an entrant's perspective. Pegasor Oy (Ltd) is selected as the target company.

Pegasor Oy (Ltd) was established in Tampere, Finland in 2008, starting with the commercialization of a breakthrough innovation in fine and nanoparticle sensor technologies. The company, nowadays, focuses on manufacturing, development and sales of the continuous real-time monitoring products and equipments in: engine emissions, stack emissions, indoor air quality and outdoor air quality.

The company's revenue is about several millions of Euros per year. It was listed as one of the most promising Nordic Cleantech start-ups, based on three different criteria: innovation, market and ability to execute (Nordic Cleantech Open, 2012). Generally, Pegasor Oy promotes 'better information from the air quality and particulate emissions for individuals, authorities and industrial stakeholders' (www.pegasor.fi, 2014).

Pegasor has more than one hundred customers in Europe, United States and Asia in different industries. The company has established wide network and partners from the industry, academia and authorities. It has distributors in more than twenty countries.

Pegasor's main business in Europe, United States and Japan is vehicle emission monitoring. The market driven for the application of vehicle emission is the standards and regulations. Pegasor products are widely in use in this area by leading companies and researchers, for example: Bosch GmbH Germany, Force Technology Denmark, and Ford Motor Company USA, etc.

Pegasor has been interested in building its business to China since 2012. They have built few early cases and projects in China with research institutes, such as China Research Academy of Environment Sciences and Nankai University. Pegasor plans to expand the business to large volume in Chinese market. According to the analysis of the internal and external business environment of the company, there are three reasons for this:

- 1) Concerning the vehicle industry, China has become the world's largest auto market in 2009. From 2001 to 2010, the compound annual growth rate has been at around 25% and in 2010, and more than 18 million auto units were sold. By

2020, the market is set to reach 40 million units, representing half of the world's new car sales (EU SME Centre). This provides Pegasor huge market for the vehicle emission monitoring opportunities.

- 2) Concerning the indoor and outdoor air quality monitoring, because of the air pollution in China, citizens and authorities are looking for advanced, reliable technologies and products for monitoring the indoor and outdoor air. As discussed before, the 'Atmospheric Pollution Prevention Action Plan' serves as the guidance for national efforts to prevent and control air pollution for the present and the near future.
- 3) Pegasor considers manufacturing sensors and equipments in China to reduce the production cost, the transportation and insurance fee. Another reason is that the Chinese local government has many policies and supports for foreign companies to establish the factory in China, e.g. possibility for funding, free office buildings, free land for factories, priority for the business, taxation benefits, etc (Tekes.fi, 2014).

To sum up, the motivation for the company to explore and expand the Chinese market is the demand from the market itself in different applications, the relatively cheaper manufacturer costs, as well as the supports from the authorities and government, both from China and Finland.

1.4. The Objective and Scope of the Thesis

As discussed in the previous section, the innovative, high-tech SMEs from Finland need to cross the market, culture and legal chasms into Chinese market. However, the literature does not provide enough information how to cross these chasms considering a whole picture. This research is aiming at providing Finnish SMEs practical and effective ways to grow the business in Chinese market. The objective of the paper is to

Find ways how can the SMEs based in Finland successfully enter into the mainstream Chinese market, and further to provide them with the action plan in China.

To achieve the goal, the question of the research has been defined as

*How can a Finnish SME manage to enter into mainstream Chinese market?
What does a Finnish SME need to do in the next step?*

In order to answer the question, couple of sub questions should be answered as well

*How can a Finnish SME cross the market chasm?
How can a Finnish SME cross the culture chasm?
How can a Finnish SME cross the legal chasm?
What is the action plan for the Finnish SME's market entry?*

1.5. The Structure of the Thesis

This thesis will focus on the chasms between Finland and China. The geographical scope is limited to China, carrying out the empirical work and narrow down to market, cultural and legal differences. In order to answer the questions from previous section, the structure of the thesis is described in Figure 2 below:

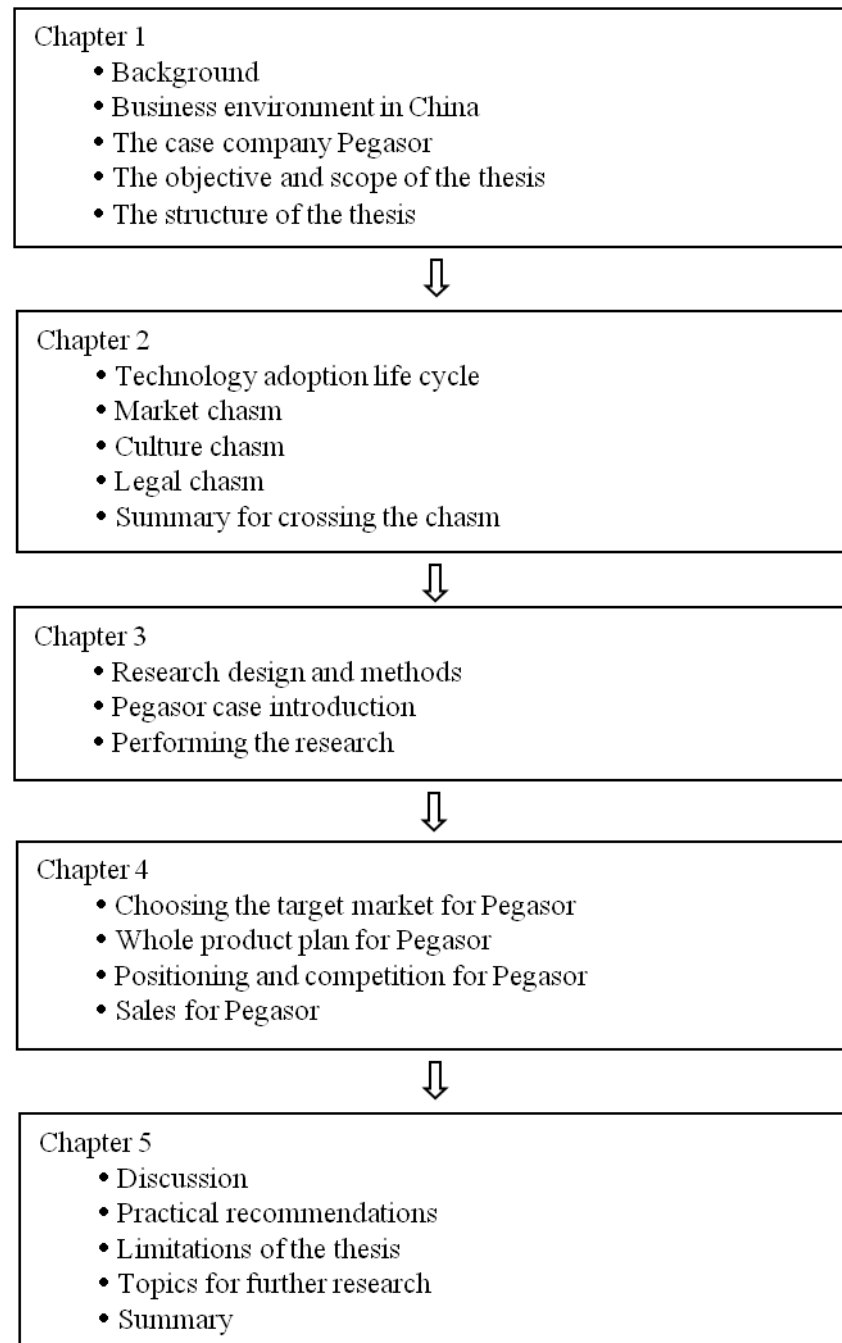


Figure 2. The Structure of the Thesis

The first chapter aims to present the introduction and the questions about the thesis. The case company is Pegaor Oy. The goal, scope and structure of the thesis are also defined. The second chapter leads to the theoretical background of the research, based on the theories of crossing the market, culture and legal chasms. It follows the chapter three describing research methods, and choosing the proper methods for the thesis. Chapter four describes the results of the analysis and crossing the chasms for the case company Pegasor. It also provides the action plan for Pegasor. The final chapter includes the results and discussion, practical recommendations, limitations of the thesis, topics for further research as well as the summary of the theoretical and practical work for the case company.

2. THEORETICAL BACKGROUND

This chapter represents the theoretical background of the thesis. Theoretical background is based on the review and analysis of relevant literature. The first section introduces the concept of technology adoption life cycle. The characteristics of different groups, including innovators, early adopters, early majority, late majority and laggards are described. The second section presents the difficulties moving from one group to the following one, especially focusing on the chasm between the early adopters to the early majority. The third section shows the culture chasm between Finland and China. It contains the business culture, language, communication way, etc. The fourth section discusses the legal chasm, which contains different ways presenting in China, such as exporting, licensing, representative office, etc. The intellectual property rights (IPR) concerns from the company are also analyzed.

2.1. Technology Adoption Life Cycle

The individual in a social system do not all adopt an innovation at the same time. Rather, they adopt in an over-time sequence, so that individuals can be classified into adopter categories on the basis of when they first begin using a new idea (Rogers, 2003, p. 267). Moore (1991) defines the process of accepting the innovation as the Technology Adoption Life Cycle, a model for understanding the acceptance of new products. There are five categorizations in the cycle, which includes innovators, early adopters, early majority, late majority and laggard (Rogers, 2003), which are in Figure 3.

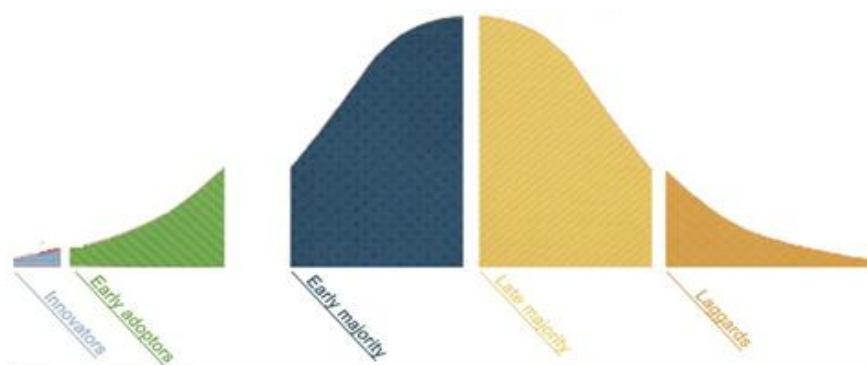


Figure 3. The Technology Adoption Life Cycle

The bell curve presents the market penetration of any new technology product in terms of a progression in the types of consumers it attracts throughout its useful life (Moore, 1991, p. 11-14):

Innovators are the type of consumers who are most enthusiastic about new technology products—sometimes they seek them out even before these products are formally launched into the market. They are generally technologists. For innovators, technology itself is of their great personal interest. In this sense, the specific functions of the technology product matters less. It is the fundamental advance of the technology itself that make innovators excited. Innovators help explore the features of the technology products. Sometimes, these innovators will provide important feedback for the producer about how to improve the products. According to Moore (1991), winning the innovators is an important component of a successful marketing strategy—the innovators' endorsement can reassure the other players in the market place that the new technology product does work.

Compared with innovators, early adopters are not technologists, although their enthusiasm about new technology products is also admirable. Similar to innovators, early adopters are willing to purchase new products early in the products' life cycle. Early adopters are greater in number than innovators. They purchase the new technology product not solely out of their interest in technology but also based on their demands of the product's function. They appreciate the benefits of a new technology, and they will relate the potential benefits to their other concerns. In this sense, a useful new technology product will be a strong match. According to Moore (1991), early adopters will be more willing to rely on their own judgement about whether the new technology product should be purchased—the do not rely on well-established references or others' comments but rather their own thoughts and vision. Winning the early adopters is thus the key to open up the new technology product market.

The early majority take a more practical attitude than the first two types of consumers in front of new technology products. They are willing to know the shortcomings of the new technology product and they believe that some of the new features are merely a passing fad. They will also choose to wait for some other people to use the products first and then make the decision based on their feedbacks. In this sense, early majority are not early compared with innovators and early adopters. However, early majority have a much larger number than the previous two types of consumers. In this sense, winning their business is key to any substantial profits and growth (Moore, 1991).

The late majority have more concerns than the early majority when facing with the new technology products in the market. The most important difference between the late and the early majority consumers are in whether they active or passive in choosing the technology products. For the early majority, they generally take an active attitude

towards new technology products. After they are convinced that the new technology product has practical importance for them, they will make the decision to purchase it. In contrast, the late majority do not want to purchase the product in the first place. After other consumers have used the product and had excellent usage experience, then the late majority will be persuaded into purchasing the new technology products to replace their familiar ones.

Laggards are the type of consumers that have no interest in new technology products at all. They have developed repulsion against new technology products and will not choose them unless there are no other choices. This type of consumers is generally neglected by the marketing department of the companies and it is reasonable to do in this way. According to the classification of the Technology Adoption Life Cycle, the high-tech marketing can be divided to three phases: early markets, mainstream markets and laggard markets. The early markets consist of innovators (technology enthusiasts) and early adopters (visionaries). The mainstream markets contain the early majority (the pragmatists) and late majority (the conservatives). The Laggard markets make up the last part of the life cycle, laggards (skeptics). In order to successfully go from the early markets to the mainstream markets, it is necessary to review the characteristics of each market phase.

According to the classification of the Technology Adoption Life Cycle, the high-tech marketing can be divided to three phases: early markets, mainstream markets and laggard markets. The early markets consist of innovators (technology enthusiasts) and early adopters (visionaries). The mainstream markets contain the early majority (the pragmatists) and late majority (the conservatives). The Laggard markets make up the last part of the life cycle, laggards (skeptics). In order to successfully go from the early markets to the mainstream markets, it is necessary to review the characteristics of each market phase.

Early Market

The early market begins with the innovators, the technology enthusiasts, who are first to realize the potential in the new product. The following group-the early adopters, which are well known as the visionaries, dominate the buying decisions in this market.

Innovators (The Technology Enthusiasts)

According to Moore (1991, p. 29), technology enthusiasts are the gatekeepers for any new technology. They are the ones who have the interests to learn about it and the ones everyone else deems competent to do the early evaluation. As such, they are the first key to any high-tech marketing effort. The Chasm Institute (2013) also points out that the technology enthusiasts provide a good test ground for a new technology. This group is the door to approach the rest of the Technology Adoption Life Cycle. According Moore (1991), there are some issues considered most important for them:

- 1) These people love the truth and they will not do fraudulent things or play any tricks.
- 2) They have access to the expertise. This enables them to provide reliable and convincing solutions for the problems they find.
- 3) They have a strong desire to be the first to get new staff. This enables them to try different things and some products' problems can be detected in this process. Important feedbacks are also generated in this process.
- 4) They have in their minds the notion that cheapness is an important aspect of technology products. In order to make the market accept a product, the price of the product must be affordable for the target consumers. Those who have strong interest in technology can sometimes overlook the importance of economical feasibility. In this sense, this trait is important for them.

The Chasm Institute (2003) points out the technology enthusiasts are always looking for state-of-the-art technology, but they typically do not have the money to fund further development. Technology enthusiasts often can be found (Moore, 1991):

- 1) in large companies, in the advanced technology group, or some such congregation;
- 2) in smaller companies, among designated techie, or a member of a product design team.

Innovators are generally not highly respected by other groups in the Technology Adoption Life Cycle. By impressing the technology enthusiasts, the new technology can attract the attention from early adopters- the invisionaries.

Early Adopters: The Visionaries

In contrast with the technology enthusiasts, a visionary derives value not from a system's technology itself but from the strategic leap forward it enables (Moore, 1991, p. 33-37). There are two key principles dealing with visionaries:

- 1) Visionaries like a project orientation. They want to start out with a pilot project, which make sense because they are 'going where no man has gone before' and you are going with them. This is followed by more project work, conducted in phases, with milestones, and the like. The visionaries' idea is to be able to stay very close to the development train to make sure it is going in the right direction and to be able to get off if they discover it is not going where they thought.
- 2) The other key quality of visionaries is that they are in a hurry. They see the future in terms of window of opportunities, and they see those windows closing. This requires a strict concept of deadline to push the project move faster.

Based on the analysis of visionaries, Moore (1991) further pointed out the only practical way to do business with visionaries is through a small, top-level direct sales force.

Visionaries can be found in the company with high influence for the decision making. The reason is they must have achieved at least a vice presidential level in order to have the clout to fund their visions.

Visionaries represent an opportunity early in a product's life cycle to generate a burst of revenue and gain exceptional visibility. The opportunity comes with a price tag- a highly demanding customer who will seek to influence your company's priorities directly and a high-risk project that could end in disappointment for all. But without this boost many high-tech products cannot make it to market, unable to gain the visibility they need within their window of opportunity, or unable to sustain their financial obligations while waiting for their marketplace to develop more slowly. Visionaries are the ones who give high-tech companies their first break. (Moore, 1991, p. 38)

Mainstream Markets

The mainstream markets contain two categories of people, the early majority and the late majority. The mainstream markets are dominated by the early majority, who in high-tech are best understood as pragmatists, who, in turn, tend to be accepted as leaders by the late majority, best thought of as conservatives. (Moore, 1991, p.41)

Early Majority: The pragmatists

The early majority have represented the bulk of the market volume, which accounts for one third of the whole product life cycle (Rogers, 2003). It is essential to get the attention from the large population to make sure the successful story. The key issues of dealing with pragmatists are (Moore, 2006, p. 42-49):

- 1) Understand their values and work to serve them. The goal of pragmatists is to make a percentage improvement- incremental, measurable, predictable progress. They are not willing to take any risks, which means waste of time and money for them.
- 2) They are commitment for the products/companies they choose. It is hard to get the pragmatists' attention and choice, but if they are won over, they are loyal. This requires the simplification of the internal service demands, but also increasing sales volumes and lowering the cost of sales.
- 3) When pragmatists buy, they care about the company they are buying from, the quality of the products, the infrastructure of supporting products and system interfaces, and the reliability of the service they are going to get. In other words, they tend to buy the products from the leading companies in the industry.
- 4) Pragmatists tend to be 'vertically' oriented, meaning that they communicate more with others like themselves within their own industry. It requires the references and trust with pragmatists.
- 5) Pragmatists like to see competition. There are three reasons: first of all, to get the cost down; second, to secure they can get more than one choice in the market, there is

always backup solutions; third, to make sure, they are buying the products from a proved market leader.

In order to deal with pragmatists, companies need to:

- 1) show up at the industry-specific conferences and trade shows they attend;
- 2) be installed in other companies in their industry;
- 3) have developed applications for the product that are specific to the industry;
- 4) have partnership and alliances with the other vendors who serve their industry;
- 5) have earned a reputation for quality and service. In sum, companies need to make themselves over into the obvious supplier of choice.

After gaining the attention from the pragmatists, it becomes much easier moving the Technology Adoption Life Cycle bell to the next group- conservatives. The carefully planning of the market to the pragmatists will get pay back not only from the market itself, but it paves for the conservative market as well.

Late Majority: The Conservatives

Late majority which is also understood as technology conservatives represents the similar market size as pragmatists, taking up approximately one-third of the total available customer within the Technology Adoption Life Cycle (Moore, 1991). But this group of people does not draw so much attention from the high-tech companies, there are several reasons, as conservatives:

- 1) in essence, are against discontinuous innovations. They believe far more in tradition than in progress. And when they find something that works for them, they like to stick with it.
- 2) often fear high tech a little bit. Therefore, they tend to invest only at the end of a technology life cycle, when products are extremely mature, market-share competition is driving low price, and the product themselves can be treated as commodities.
- 3) their goal is to purchase high-tech products is simply not to get stung. They are price sensitive, and looking for the low-margin end of market. But through large volume, companies can also get reasonable profit by serving them properly. For example, conservatives like to buy preassembled package, with everything bundled, at a heavily discount price.

In sum, the conservative marketplace provides a great opportunity, in this regard, to take low-cost, trailing-edge technology components and repackage them into single-function system for specific business need. There are two key principles to win this market:

- 1) the first is to have thoroughly thought through the 'whole solution' to a particular target end user market's need, and to have provided for every element of that solution within the package;

- 2) the second one is to have lined up a low-overhead distribution channel that can get this package to the target market effectively. (Moore, 1991, p.48)

Furthermore, the conservatives play important role in the high-tech market, as Moore (1991) illustrates that they greatly extend the market for high-tech components that are no longer state-of-the-art. More money could be got from this segment of the high-tech marketplace if leading-edge manufacturers and marketers can take advantage of their high-volume channels and vast purchasing resources, by paying more attention to it, as the cost of R&D radically escalates, companies are going to have to amortize that cost across bigger and bigger markets, and this must inevitably lead to the long ignored 'back half' of the technology adoption curve.

Laggards: The skeptics

Skeptics- the group that makes up the last one-six of the Technology Adoption Life Cycle- do not participate in the high-tech marketplace except to block purchase (Moore, 1991, p.54). There are always arguments from skeptics about the high-tech market, e.g. the investment on the automation management of the office does not improve the efficiency of work. It is difficult to capture any interest of skeptics of the high-tech products.

What skeptics are struggling, as it is described that new systems for the most part, do not deliver on the promises that were made at the time of their purchase. This means the value of the products deliver is not as skeptics anticipated. Meanwhile, the skeptics have high requirement of 'whole product solutions', which incorporated elements well beyond high-tech manufacturers' ship inside their boxes (Moore, 1991). The skeptics will not accept the high-tech sales if it is not a 'whole product'.

2.2. Market Chasm

By isolating the psychographics of customers based on when they tend to enter the market, it gives clear guidance on how to develop a marketing program for and innovative product (Moore, 1991, p.55). The ideal model for the high-tech companies is to go through the whole product life cycle, but in reality, most failed (Goldsmith and Flynn, 1992). The biggest challenge comes from the movement from the early market to mainstream market. Since the pragmatists are not anxious to reference visionaries in their buying decision, the fundamental characteristics of visionaries that alienate pragmatists are described below where the chasm exists:

- 1) Lack of respect for the value of colleagues' experience;
- 2) Taking a greater interest in technology than in their industry;
- 3) Failing to recognize the importance of existing product infrastructure;
- 4) Overall disruptiveness.

Crossing the Chasm

After analyzing the characteristics of each group of people and the importance to cross the chasm between early adopter (visionaries) and early majority (pragmatists), it comes to the question: how to cross the chasm in the high-tech market?

There are four domains of value in high-tech marketing: technology, product, market, and company. In the early market, where decisions are dominated by technology enthusiasts and visionaries, the key value domains are technology and product. In the mainstream, where decisions are dominated by pragmatists and conservatives, the key domains are market and company:

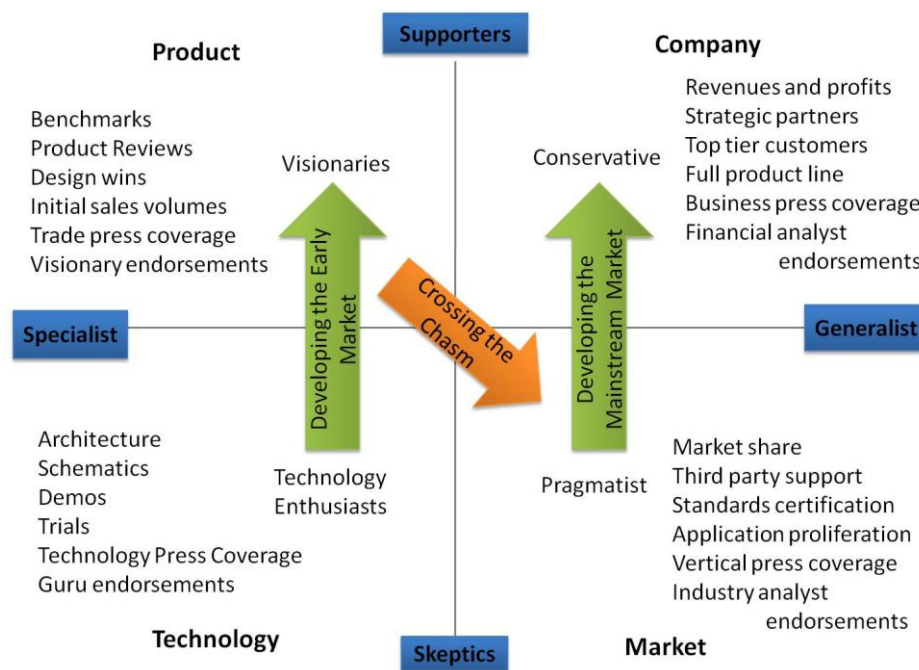


Figure 4. Market Development Strategy Roadmap ((Moore, 1991)

Figure 4 shows the transition from visionaries to pragmatist, it is also the process shifting from the product-centric to the market-centric. According to Moore (1991), the different characteristics between product-centric and market-centric can be illustrated below:

Table 1. Product- Centric VS Market- Centric

<i>Product-Centric</i>	<i>Market- Centric</i>
Fastest product	Largest installed base
Easiest to use	Most third party supporters
Elegant architecture	De facto standard
Product price	Cost of ownership
Unique functionality	Quality of support

Table 1 shows the visionaries are product oriented, and their concerns are the product itself, such as the outlook, price, unique function, etc. On the contrary, the pragmatists are market oriented, and they care more about the information from the market, for example the large scale use, industry standards, and the support.

Based on the analysis of the different concerns from early adopters and early majority, there are four essential aspects for crossing the chasms pointed by Moore (1991):

- 1) Selecting the point of attack, the place to cross, the beachhead, the head bowling pin.
- 2) What kind of offer it will take to secure that initial target market, and how we as a fledgling enterprise with limited resources can go about fielding such an offer.
- 3) The enemy, the forces that throw the companies back off the beach and back into the chasm, and how we can position ourselves for success.
- 4) The selling systems themselves, pricing and distribution.

In other words, the high-tech companies in the crossing chasm phase, moving from the visionaries to the pragmatists, need to pay attention to the four areas: 1) target market; 2) whole product plan; 3) positioning and competition; and 4) sales.

Target market:

Companies usually are more effective when they target their markets, and target market involves three activities: market segmentation, market targeting, and market positioning (Kotler, 2000, p. 279). Segmentation is focused mainly in finding ways to approach the right customers and the most common ways to segment Business-to-Business (B2B) markets are: 1) geography, 2) customer size, 3) buying behaviour, 4) customer capabilities, 5) application/ industry (Lyly-Yrjänäinen et al., 2010, p. 251).

In order to make the market development strategy, a detailed checklist is illustrated below (Moore, 1991, p. 98-104):

Table 2. Market Development Strategy Checklists

Target customer	Is there a single, identifiable economic buyer for this offer, readily accessible to the sales channel we intend to use, and sufficiently well-funded to pay the price for the whole product?
Compelling reason to buy	Are the economic consequences sufficient to mandate any reasonable economic buyer to fix the problem called out in the scenario?
Whole product	Can our company with the help of partners and allies field a complete solution to the target customer's compelling reason to buy in the next three months such that we can be in the market by the end of next quarter and be dominating the market within twelve months thereafter?
Competition	Has this problem already been addressed by another company such that they have crossed the chasm ahead of us and occupied the space we would be targeting?
Partners and allies	Do we already have relationships begun with the other companies needed to fulfil the whole product?
Distribution	Do we have a sales channel in place that can call on the target customer and fulfil the whole product requirements put on distribution?
Pricing	Is the price of the whole product consistent with the target customer's budget and with the value gained by fixing the broken process? Do all the partners, including the distribution channel, get compensated sufficiently to keep their attention and loyalty?
Positioning	Is the company credible as a provider of products and services to the target niche?
Next target customer	If we are successful in dominating this niche, does it have good "bowling pin" potential? Will these customers and partners facilitate our entry into adjacent niches?

Table 2 illustrates the set of issues around which go-to-market plans are built, each of which incorporates a chasm-crossing factor. The checklist helps company to choose the beachhead target. Kotler (2000) also holds the opinion that marketers should first identify and profile distinct groups of buyers who might require separate products or marketing mixes, and second select one or more market segments to enter.

Whole product plan:

The production of value in a business marketing context can be described through three basic value-production types- core values production, incremental value-added production, and new future value production (Möller, 2006). In other words, there are two concepts related to the product, including:

- 1) whole product; and
- 2) partners and allies.

A whole product consists of: 1) generic product- the thing itself, 2) expected product-things associated with the generic product, such as delivery, terms, support efforts, 3) augmented product- attributes associated with the generic product beyond the customer

expectations, 4) potential product- all the things associated with the product ‘to attract and hold customers’ (Moore, 1991; Levitt, 1986). For supporting this opinion, Mödler (2006) also notes that in real life the postulated three value production supplier can provide core value offerings to its specific customer and simultaneously pursue business process or offering improvement through relational value creation projects with this customer. The whole product model is illustrated below:

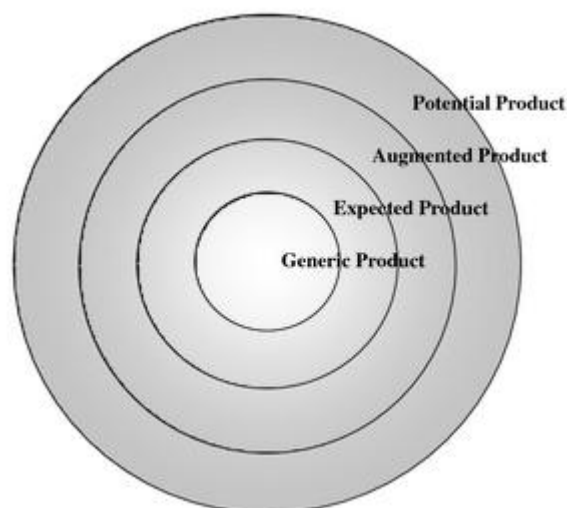


Figure 5. The Whole Product Model (Moore, 1991)

There are two categories in the model: 1) what the company ships, and 2) whatever else the customers need in order to achieve their compelling reason to buy. Levitt (2008) argues that products are almost always combinations of the tangible and the intangible, and marketing with the idea of satisfying the needs of the customer by means of the product and the whole cluster of things associated with creating, delivering and finally consuming it.

Moore (1991, p. 113) also points out that at the introduction of any new type of product, the marketing battle takes place at the level of the generic product- the thing in the center, the product itself. But as marketplace develop, as the company enters the mainstream market, product in the center become more and more alike, and the battle shifts increasingly to the outer circles. The range of activities performed by systems integrators is increasing as a result of customer demands for turnkey solutions. Under contracts for turnkey solutions, the supplier is responsible for the entire set of activities involved in the design, integration, construction, testing, and delivery of a fully functioning system. All the customer has to do is turn a key (Prencipe et al., 2005).

But in the reality, not all the companies can achieve the whole product. Then it comes to the second concept, how to organize a marketplace to provide a whole product incorporating the company’s offering- partners and allies. In many cases, firms have

made a transition from being vertically integrated (doing nearly everything in-house) to being the integrator of somebody else's activities. These changes pose new challenges not only to prime contractors and major system integrators, but also their network of suppliers and partners in production and innovation. (Prencipe et al., 2005, p.1)

The purpose of cooperating with partners and allies is to create a market. For any company crossing the chasm, fostering the initial partnership to create the whole product is the equivalent of seeding the value chain, getting it started. Once value starts being generated, the market system becomes self-reinforcing (Moore, 1991, p. 129). If other products, services, or capabilities are required to provide complete solutions to a customer's needs, systems integrators cooperate with partners in joint ventures of consortiums to carry out those portions of the work (Prencipe et al., 2005). Depending on the competitive situation the supplier must often offer these support services free of charge or she can charge only part of their real costs (Golfetto, 2003). The essential part forming the tactical partners and allies is to speed up the development of the whole product and cross the chasm from the visionaries to the pragmatists.

B2B refers to the commercial transaction between two business parties, which mainly includes the process of sourcing the materials from supplier, gaining other services from other enterprise and purchasing end product from manufacturer (Hadjikhan & LaPlaca, 2013). During the process of implementing commercial mode of B2B, it is crucial for the enterprise to put the value of customers at the first place while developing its marketing strategy and market entry mode (Sheehan et al, 2015).

So the 'whole product' should provide the customer value, which is known as customer-oriented view, refers to the customer satisfaction that influenced by the feeling after purchasing and experiencing particular goods or services (Chen et al, 2015). The degree of customer value is always determined by quality of services and products instead of merely by the cost of the commodity or service. Customer value should always be regarded as the top concern for the enterprise on the ground that customer value is the basic factor that influences the business performance of enterprise (Xu et al, 2015). The degree of customer value determines whether the enterprise meets the expectation and need of customers or not to a large extent. In order to gain sustainable development in Chinese market, companies are strongly encouraged to endeavour to maximum the customer value for customers by the means of providing best- quality products and services with high cost performance.

During the process of implementing the integrated solution, it is also crucial for companies to attach importance to the customer value in B2B market. That is to say, while cooperating and conducting the commercial transaction with suppliers, entrepreneurs and supports, the company should pay more attention to maximize the customer value for customers by guaranteeing the quality of the products, but also

should to actively create more value for the suppliers, and joint buyer–seller value creation (Ulaga & Chacour, 2001). For example, the company should establish good cooperative relationship with upstream and downstream enterprises in order to achieve win-win result.

Positioning and competition:

Positioning is the act of designing the company's offering and image to occupy a distinctive place in the target market's mind (Kotler, 2000, p. 298), and every company needs to form a unique positioning for its market deliveries. Lyly-Yrjänäinen et al. (2010) defines positioning as the process of the company finding a way to make its market offering occupy a distinctive place in the mind of the customers within the selected target market, and it is the process in which enterprise endeavours to win the trust from consumers (McCabe, 2009).

Moore (1991, p. 157-158) has addressed there are four stages in this process along with the Technology Adoption Life Cycle: 1) name it and frame it- for technology enthusiasts, 2) who for and what for- for visionaries, 3) competition and differentiation- for pragmatists, 4) financials and futures- for conservatives.

In order to move smoothly from the early market to the main stream market, the company need to understand the competitors and how to differentiate it as well. According to Kotler (2000, p. 14), competition includes all the actual and potential rival offerings and substitutes that a buyer might consider. And there are four levels of competition, based on degree of product substitutability: 1) brand competition; 2) industry competition; 3) form competition; and 4) generic competition.

Differentiation is the act of designing a set of meaningful differences in order to distinguish a company's product offering from its competitors' (Lyly-Yrjänäinen et al., 2010, p. 205). A company can differentiate its market offering along five dimensions: product, service, personnel, channel, and image (Kotler, 2000, p. 288). Grant (2000, p. 248-249) also illustrates that differentiation is concerned with how the firm competes- in what ways the firm can offer uniqueness to its customers. As a new entrant, the best way for companies to win faithful customers and build brand image is to create high customer value for customers so as to be differentiate from other competitors and attract the attentions of customers.

In order to practice this strategy, there are some key steps. The step-by-step framework of this practice can be summarised as:

- 1) Figuring out the target customers—for whom;
- 2) Figuring out the concerns—their dissatisfaction of the current market alternative;
- 3) Figuring out what we offer;

- 4) Figuring out the difference between our products and the existing products;
- 5) Providing the customers with the product features for their review and application.

Sales:

Business is an activity that seeks profit for the owners by selling goods and services which are produced with the use of factor of production. In order for company to make profit, it requires to sell the products with right price. Kotler (2000, p. 513) describes most producers do not sell their goods directly to the final users. Between producers and final users stands one or more marketing channels, a host of marketing intermediaries performing a variety of functions. Marketing-channel (also called distribution channel), decisions are among the most critical decisions facing management.

In order to promote the products and service to more target customers, it is also crucial for companies to expand its sales channel so as to strengthen its brand image and attract more attentions from customers (Ennew & Waite, 2013). First of all, developing specific website should be regarded as the first sales channel for companies. The website should cover all aspects of essential information and competitive advantages that related to the enterprise so as to enable more customers to know this brand and put it as the first choice of purchasing the products.

Distribution

Marketing channels are sets of interdependent organizations involved in the process of making a product or service available for use or consumption (Coughlan et al., 2006). The distribution channel is for reaching customers and making decision regarding the amount of distributors which will be used in a certain region and the degree of exclusivity on the company's product which each distributor should provide (Lyly-Yrjänänen et al., 2010, p. 204-205).

Members of the marketing channel perform a number of key functions, for example (Kotler, 2000, p. 490-493):

- 1) they gather information about potential and current customers, competitors, and other actors and forces in the marketing environment;
- 2) they develop and disseminate persuasive communications to stimulate purchasing;
- 3) they reach agreement on price and other terms so that transfer of ownership or possession can be affected;
- 4) they place orders with manufacturers, etc. An industrial-goods manufacturer can use its sales force to sell directly to industrial customers. Or it can sell to distributors, who sell to the industrial customers.

These channels' functions can serve for some different purposes, these purposes can be summarised in three aspects: 1) demand creator or demand fulfillers, 2) role in providing the whole product, 3) potential for high volume. The company needs to choose the

distribution channel based on different purposes. In the crossing the chasm background, there are two criteria (Moore, 1991):

- 1) The channel already has a or optimized to create a relationship with the target mainstream customer;
- 2) The less pressure put on the channel to deliver the whole product, the more it can focus on selling, not supporting.

Pricing

The pricing is affected depending on the delivery channel used and the responsibilities taken by different intermediaries; furthermore, these intermediaries are given significant discounts but only because of the value added that they provide (Lyly-Yrjänäinen et al., 2010, p. 260-261).

According to Moore (1991), there are two issues to be considered by distributors for pricing:

- 1) Being priced to sell means that price does not become a major issue during the sales cycle. As discussed before, the visionary customers don't take the price as an issue for their purchasing decision, but for pragmatist customers, the price is an issue. So when the company transfers from the early market to the mainstream, the pricing becomes a problem.
- 2) The products can also be priced too low to cross the chasm. If the price is too low, it doesn't take consideration of the channels' extra effort to promote the innovative technology and products. The motivation from the distributor should be considered as well.

2.3. Culture Chasm

From the observation of EU SMEs center, 45% Western SMES regard the cultural barriers as one of the biggest challenge entering into Chinese market. Kleyn (2012) points out comprehending the difference between the Western and the Eastern Cultures is paramount, and without respecting these differences, the platform for any business undertakings may be disastrous. Based on the PESTEL analysis, in the social-cultural arena, marketers must understand people's view of themselves, others, organizations, society, nature, the universe, and they must market products that correspond to society's core and secondary values, and address the needs of different subcultures within a society (Kotler, 2000, p. 155). This sector starts exploring the culture differences from the general level, and then narrows down to some practical considerations in the Chinese culture.

One of the most widely referenced approaches for analyzing variations among cultures was done by Hofstede. There are five dimensions of national culture are defined (Hofstede et al., 2010; Robbins & Judge, 2012):

- 1) Power distance: the degree to which people in a country accept that power in institutions and organizations is distributed unequally. A high rating on power distance means that large inequalities of power and wealth exist and are tolerated in the culture. A low power distance rating characterizes societies that stress equality and opportunity.
- 2) Individualism versus collectivism: Individualism is the degree to which people prefer to act as individuals rather than as member of groups and believe in individual rights above all else. Collectivism emphasizes a tight social framework in which people expect others in group of which they are part to look after them.
- 3) Masculinity versus femininity: Masculinity is the degree to which the culture favours traditional masculine roles such as achievement, power, and control, as opposed to viewing men and women as equals. A high masculinity rating indicates the culture has separate roles for men and women, with men dominating the society. A high femininity rating means the culture sees little differentiation between male and female roles and treats both equally.
- 4) Uncertainty avoidance: the degree to which people in a country prefer structured over unstructured situations. High score means people have an increased level of anxiety about uncertainty and ambiguity and use laws and controls to reduce uncertainty. Low score means people are more accepting of ambiguity, are less rule oriented, take more risks, and more readily accept change.
- 5) Long-term versus short-term orientation: measures a society's devotion to traditional values. People in a culture with long-term orientation look to the future and value thrift, persistence, and tradition. In a short-term orientation, people value the here and now; they accept change more readily and don't see commitments as impediments to change.

Hofstede has surveyed more than 80 countries for the five cultural dimensions, and Table 3 shows the rating for the countries, limited to Finland and China in the thesis, for which data are available:

Table 3. Comparison of Hofstede's Five Cultural Dimensions of Finland and China

Country	Power Distance		Individualism versus Collectivism		Masculinity versus Femininity		Uncertainty Avoidance		Long-term versus Short-term Orientation	
	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index
Finland	68	35	22	63	68	26	50-51	59	51-54	38
	Low		Individualism		Femininity		High		Short-term	
China	12-14	80	58-63	20	11-13	66	70-71	30	4	87
	High		Collectivism		Masculinity		Low		Long-term	

According to the ranking of Hofstede et al., the cultural differences between Finland and China are more obvious. Table 3 shows the comparison of Finnish culture and Chinese culture towards the five cultural dimensions. Now it becomes much easier to understand the other culture's behaviour in the business. Take uncertainty avoidance for

example, which relevant to the daily work very much: Finland has high uncertainty avoidance, which means Finnish people are more reluctant to take uncertainty and ambiguity, resist change more, have a lower motivation for achievement, and take fewer risks.

On the contrary, Chinese people are more accepting of uncertainty and ambiguity, take more risks, and more flexible and ready to accept change. In organizations, workers in high uncertainty avoidance cultures prefer a specialist career, prefer clear instructions, avoid conflict, and disapprove of competition between employees more than workers in low uncertainty avoidance cultures. (Robbins & Judge, 2012; Gudykunst et al., 1996). In the real business, it can refer to the attitude and reactions for negotiation, schedule, meetings and project implementation.

Besides Hofstede's Five Dimensions, another one important part of the culture is the communication way. A high-context communication is one in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message. A low-context communication, in contrast, is one in which the mass of the information is vested in the explicit code. The US, German, Scandinavian belong to the low-context communication category. While most Asia cultures, such as Japanese, Chinese and Korean fall toward the high-context communication. (Hofstede et al., 2010; Hall, 1997; Gudykunst et al., 1996)

The level of context influences all other aspects of communication: "When talking about something that they have on their mind, a high-context individual will expect his/her interlocutor to know what is bothering him/her, so that he/she does not have to be specific. The result is that he/she will talk around and around the point, in effect putting all the pieces in place except the crucial one. Placing it properly- this keystone- is the role of his/her interlocutor". (Hall, 1997; Gudykunst et al., 1996)

According to Wen (2009) and Wang (2008), following the review of the culture differences between Finland and China in the general level, it comes to some practical considerations doing business in China, for example:

- 1) Language. It creates a good image if the foreign company's representatives could learn a little about the Chinese language and culture.
- 2) Social networks. The Chinese do not do business with strangers. Relationship, *Guanxi* in Chinese, stills plays an essential role in business.
- 3) Numbers have their special meanings. For example, four is an unlucky number, because it has the similar pronunciation as death in Chinese. Eight is a number that referring to wealth and fortune. It may be wise to use the number 8 in phone numbers, offers and even products if possible (Lautamaki & Yliannala, 2011).

4) The Chinese avoid saying no in many situations. The concept of losing face is still wide spreading in China. They feel it is very important to never put someone in the position of having to admit a mistake or failure and to never criticize or ridicule what they are doing to save face. Since the Chinese are afraid of losing face, they will not tell you when they do not understand.

The Chinese believe that politeness is more important than frankness, so they will not say “no” directly. They may say something like, “I will see what I can do” or “I will do my best”, which usually means “no” but leave things open so can reopen this issue at a later time. They also dislike confronting problems directly and tend to go around the issue which can be frustrating for Finnish people. (Lautamaki & Yliannala, 2011; Peng, 2009)

5) Sometimes negotiations in China may become unnecessarily complicated. It would be useful to be accompanied by a local Chinese, who is also familiar with the western company's policies. (Chen & Nudelman, 2008)

2.4. Legal Chasm

It is the main purpose of the sector to discuss market entry strategies used by foreign small and medium-sized enterprises into Chinese market. Entry strategy into international market is always the focus of the development of transnational corporations. An important decision that transnational corporations encounter in the international development is the selection of international market entry mode (Huang & Sternquist, 2007).

There are different ways of company or the products legally presenting in China. Based on the PESTEL analysis, in the political-legal environment, marketers must work within the many laws regulating business practices and with various special-interest groups (Kotler, 2000, p. 155). The advice from EU SEM Center, the entry mode includes exporting and investment.

Exporting strategy is a common market entry strategy used by international enterprises to support the expansion of their international business (Fabling & Sanderson, 2013). According to Love and Mansury (2009), exporting is a process in which an international enterprise transports its products to a specific foreign market and then sell there. Normally, exporting can be subdivided into direct exporting and indirect exporting (Kim & Hwang, 1992). Direct export is a method that an international enterprise directly sells its products and services to target consumers in foreign market rather than using other middlemen, while indirect exporting is a process in which an international

enterprises sell its products and/or services to target consumers in a foreign market through middlemen (Salomon, 2006).

According to EU SME Center (2013), exporting of goods to China always involves engagement of a company which has the right to operate import/export activities stated in its business licence. Therefore, the term 'importer' in Chinese trade terminology usually refers to the China-registered company possessing an import/export licence. Such a company can be a buyer and thus importer in the general sense, but most often it is only an intermediary assisting with the import, bringing the goods across the border and facility international payment.

For many international enterprises especially SMEs, exporting strategy often will be regarded as one of the most effective strategy to help them to enter a foreign market. According to Glaum and Oesterle (2007), indirect exporting points to the market entry strategy which encourages the new entry to set up branch offices in the target market for the purpose of promoting own products and services to new market and new customers. By adopting the indirect exporting, the company is able to lower the risk and the amount of investment. Additionally, the company can not only relatively be easy to conduct the management but also provide more products and services for customers.

On the other side, however, influenced by the global market environment, foreign companies may be susceptible to the economic environment in the target market. Hence, it is necessary for the enterprise to seize the developmental opportunity and turn the threat into chance in the target market for investment, which includes wholly foreign-owned enterprises (known as WOFE), joint venture (JV), representatives and partnerships (Kotler, 2000).

JV mainly refers to the business developmental method of establishing long-term business relationship with well-known enterprises in target market so as to make the best use of the advanced and mature technology and management and strengthen own business competitive advantages (Raff et al, 2009). In face of high level of competitive pressure, it is vital for foreign companies to select the best cooperative partners to support their entry into Chinese market. From this point of view, the advantages of adopting the joint venture entry strategy lie in entering the new market easier and utilizing the competitive core forces of business partners. On the other hand, by no means should the foreign companies lose sight of the disadvantages of instability of business and lacking of autonomy by influenced by the joint venture.

Licensing also is one of the market entry strategies used by international enterprises to enter a specific market (DePamphilis, 2015). In business filed, licensing is defined as a contractual agreement that is established by a brand enterprise and other business entities (Laufs & Schwens, 2014). It is suggested that licensing is an entry model in

which an international enterprise grants other enterprises to use its intellectual properties such as trademark, brand, technology, and products etc (Sherman, 2004). In today's business field, Licensing often is used as an effective business strategy to support their business development. Licensing has been used by many high-tech companies, especially SMEs which lack of the manufacturing capability. Currently, the case company attempts to enter the Chinese market. In order to support its successful entry, the company also can select licensing strategy to support its business expansion. In doing so, it is believed that the company can rapidly occupy more market share in the Chinese market.

Kotler (2000) states the opinion once the company decides on a particular country, and it must determine the best mode of entry. Its broad choices are indirect export, direct export, licensing, joint ventures, and direct investment. Companies generally begin with indirect exporting, then proceed through later stages as they gain more experience in the international arena.

In Finland many SMEs possess advanced know-how, in other words, the intellectual property, in certain areas, and they tend to export the technology to China. There are different ways of technology transfer, including licensing, JV, WFOE, etc. One of the challenges facing not only Finnish companies, but also other European companies, is how to minimize the risk of the IPR associated with technology transfers. In sum, the process for exporting goods to China is listed in Appendix 1 and the process for technology transfer to China is demonstrated in Appendix 2. In addition, key policy and legislation are referred in Appendix 3.

2.5. Summary for Crossing the Chasm

This part summarizes the main points of the previous sections on how to cross the chasm between the early market and the mainstream market, and it also represents the framework for the empirical study. First of all, the company should choose the target market. After the target market is selected, it follows the whole product plan. Competition and positioning play an important role in the entry into mainstream markets process, since no competition equals no market. Finally, it comes to the company launch the invasion to the market, the distribution channel and pricing. As a result, Figure 6, including four steps, provides a framework for crossing the chasm that to move from the early adopters to the early majority.

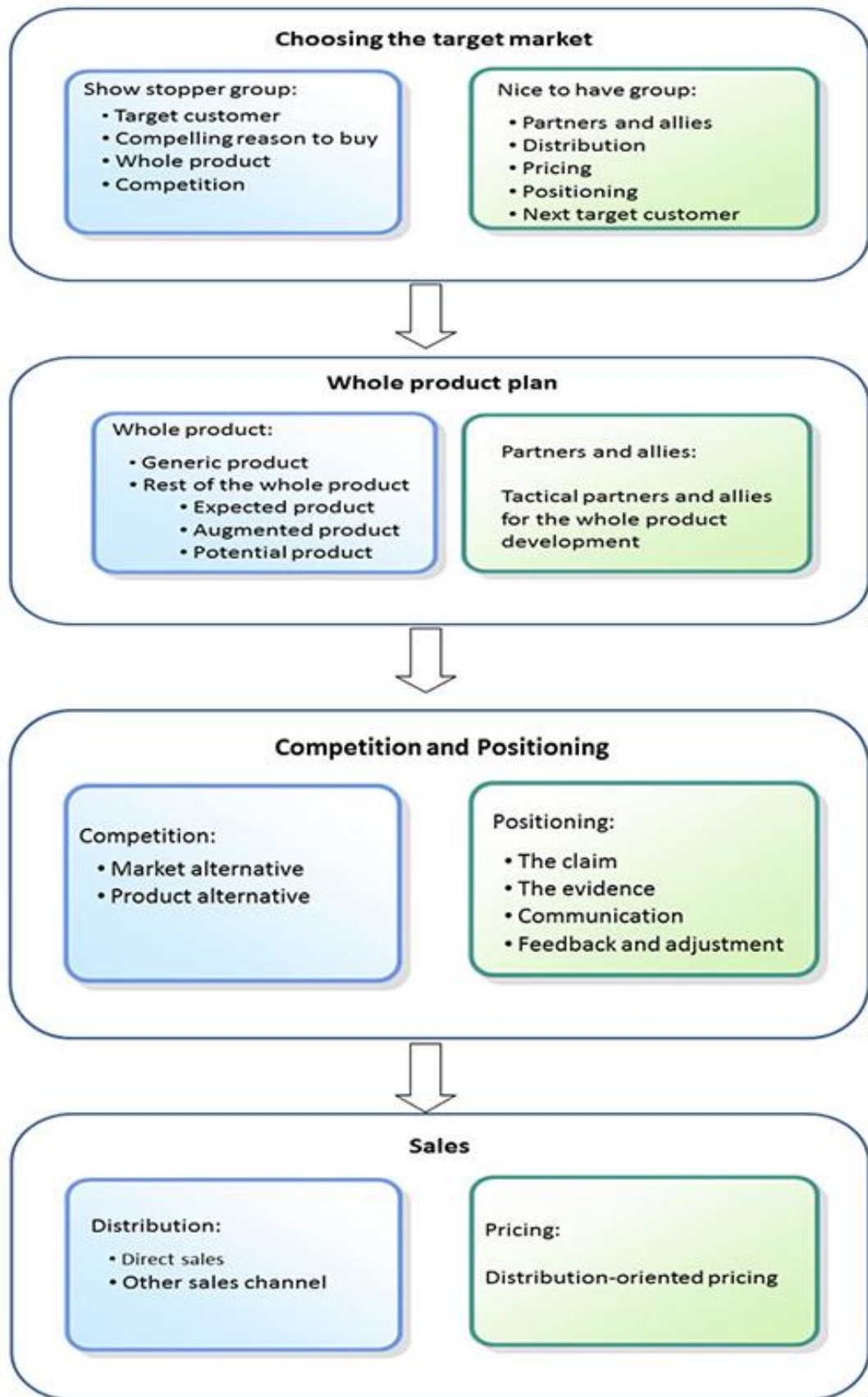


Figure 6. Framework for Crossing the Chasm

The first step: choosing the target market:

There are nine factors, divided into two groups, concerning which market to choose. The first group is ‘showstopper group’, which includes target customer, compelling reason to buy, whole product and competition. For this group, the report scores each factor from 1-5. The higher score is the better for choosing the target market. Every factor is crucial.

After the first round selection, it comes to the second round, it means to the next group of factors, ‘nice to have’ group. Each factor is also rated by 1-5, but the lower score problem normally can be solved, given investment and time. This group includes partners and allies, distribution, pricing, positioning, and next target customer.

All the potential target markets are marked as Market A, B, C, etc. So the structure for the selection target customer in detail is illustrated in Table 4:

Table 4. Showstopper- First Round Selection of the Target Market

Showstopper- First Round Selection of the Target Market				
	Market A score	Market B Score	Market C Score	Market... score
Target customer				
Compelling reason to buy				
Whole product				
Competition				
Total score				

Based on the analysis and result of Table 4, the selected potential target markets enter into the second round. It is assumed that Market A, Market B and Market X have passed the first round and entered into the second round, which are described below:

Table 5. Nice to have- Second Round Selection of the Target Market

Nice to have- Second Round Selection of the Target Market			
	Market A score	Market B Score	Market... score
Partners and allies			
Distribution			
Pricing			
Positioning			
Next target customer			
Total score			

Rate all the scores from the first round selection and the second round selection together. Depending on the outcome, the company should proceed as follows:

- The company agrees on the target market.
- The company cannot agree on one target market. Do the process again, and find one beachhead segment.
- No scenario survived. Do not attempt to cross the chasm. Continue grow in the early market, and try to cross the chasm when it's feasible.

The second step: whole product plan

The whole product consists of the generic product from the company and rest of the product (expected product, augmented product and potential product) may from the partners and allies, which are discussed in Table 6.

Table 6. The Whole Product Analysis

Company products: a) Product 1: b) Product 2: c) Product ...
Company services: a) Service 1 b) Service 2 c) Service ...
Non-company products and services a) Products X... b) Services Y...

Based on the whole product analysis above, the company can use The Whole Product Model to define the whole product, and find out what is the core competence from the company, and other responsibilities must be taken by partners and allies.

The company needs to further define the partners and allies to co-develop the whole product and market jointly from difference resources. There are different approaches to get access to the partners and allies:

- Trade, exhibitions, conferences
- Customers can be partners
- Research organization, universities
- Public organizations
- Etc.

Building and developing the relationship with the partners and allies requires trust and reliability. The goal of working together with the partners and allies is to work as close as possible to explore the market. One practical notice working with partners and allies from is: if they are large organizations, focus the energy on establishing relationship at the district office level and be aware of wasting time and effort for too general cooperation. On the contrary, if the partners are small companies, pay attention to their limited resources and work to their advantages for the compensation.

The third step: competition and positioning

In order to secure the target segment to be successful, the company needs to know who or what is the competition, and how to positioning the company itself to eliminate the enemy out of the market.

Competition

In the crossing the chasm context, the nature of competition changes dramatically from the early market to the mainstream market. In the early market, the competition mainly not comes from the competitive products, but from the alternative modes of operation, from the corporate agenda. In the mainstream market, the definition of competition from pragmatists is ‘comparative evaluations of products and vendors within a common category’. The pragmatists are willing to buy until there are comparisons. Competition is a fundamental condition for their purchase decision. But there are not so many competing products from the early markets that companies need to create the competition. The key of selecting the competition is to focus on the pragmatists who are market-oriented

The company chooses the competition to define the niche market to dominate. There are two kinds of competitors, the first one is the market alternatives, and the second one is product alternatives:

Market alternative is a company that the target customer has been buying for years. The problem they address is the one we will address, and the budget that is allocated to them represents the money we as the new entrant are going to preep. To earn the right to this budget, we are going to use a discontinuous product innovation to address a problematic limitation in the traditional offer.

Product alternative is a company that has also harnessed a discontinuous innovation, and is positioning itself like us as a technology leader. Their very existence gives credibility to the notion that now is the time to embrace a discontinuity. Our intent here is to acknowledge their technology but to differentiate from them by virtue of our own niche market focus.

The process of the competition creation is: first of all, locate the product within a buying category that already has some established credibility with the pragmatist buyers; secondly, within the condition, the next goal is to position the product as the indisputably correct buying choice.

Positioning

The purpose of positioning is to put in place these sets of perceptions with the appropriate target customers in the appropriate sequence and at the appropriate time in the development of a product’s market (Moore, 2006, p. 152).

For passing the elevator test which discussed in the previous sector, the key element is to define the company position based on the target segment and the value proposition. It is a clear and precise direction.

After passing the elevator test and form the fundamental competitive claim to a two-sentence formula and then focus on the boundaries of each piece. The company needs to get the feedback from the market and do adjustment accordingly.

The fourth step: of sales of the company

The last box contains the two points, distribution and pricing, where marketing decisions come into direct relationship with the mainstream customer.

The distribution channel has the direct contact with the end customer. In the crossing the chasm period, the channel helps the company to access to the mainstream markets. The pragmatists need to feel comfortable from where they will buy the products. If the channel is not established, nothing further can be accomplished.

According to Moore (2006, p. 183), the right choice of distribution channel for crossing the chasm is to:

- 1) Use direct sales and support as a demand-creation channel to penetrate the initial target segment and then,
- 2) Once the segment has become aware of your presence and leadership, to transition to the most efficient fulfilment channel.

After the distribution channel is defined, it comes to next question for the pricing. The aim of pricing in the crossing the chasm period is to motivate the channel. The margins are the channel's reward, since the crossing chasm period puts extra pressure on the distribution channel. So it should be distributor-oriented pricing.

In summary, this section charts out the framework for crossing the chasm, and it provides the basis for the empirical study of this thesis. All the aspects- choosing the target market, whole product plan, competition and positioning, sales are discussed.

3. RESEARCH METHODOLOGY

This chapter introduces the research methodology in the thesis. The first section describes the research design and methods, and presents the choice of research approach and methods for the thesis. The second section, introduces Pegasor case, including the business areas and products. The third section addresses how the research was performed for the case company.

3.1. Research Design and Methods

There are various classifications of research approaches in the literature, from different points of view and different purposes. The research methods used in managerial and economics literature are divided into three categories: 1) theoretical or empirical; 2) deductive or inductive; 3) qualitative or quantitative.

First, research can be either theoretical or empirical (Simon et al., 1994). Theoretical research aims to develop new theories on the basis of existing theories and hypothesis. Empirical study involves empirical data gathering and analysis, followed by the reporting of findings and conclusions (Minor et al., 1994). In empirical research the information is gathered from the real world.

Second, research can be either deductive or inductive (Heit and Rotello, 2010). The main difference between deductive and inductive approaches to research is that whilst a deductive approach is aimed and testing theory, an inductive approach is concerned with the generation of new theory emerging from the data (Gabriel, 2013). A deductive approach usually begins with a hypothesis, from more broad to more specific and narrow theories, whilst an inductive approach focuses on moving from specific observations to more generic and broader theories.

Third, research can be categorized as qualitative or quantitative (Curall and Towler, 2002). Quantitative approach follows strong academic traditions and it is focused on numerical data that represents concepts and opinions in form of numbers analyzed using statistical methods (Amaratunga et al., 2002). Qualitative approach is more oriented on gathering data through interviews, observations and analysis of gathered data through qualitative data analysis methods (Bryman and Bell, 2007). Qualitative research aims at improved understanding (Gummesson, 1999).

Definition of a research method is an initial stage of management research. It is crucial for analysis to choose right method or its combination, which will be suitable for the research goals. Gummesson (1999) introduces five research methods for data gathering: 1) using existing materials; 2) questionnaire surveys; 3) qualitative interview; 4) observations; and 5) action science.

First, researchers can use existing materials such as books, journals, documentations, specifications, diagrams, statistics, and videos. However, these materials were not created for research purposes and may contain irrelevant imprecise information (Gummesson, 1999). Though, existing materials can be useful tool in combination with some other research method.

Second, questionnaire surveys are questionnaires with list of questions targeted on selected group of people. According to Gummesson (1999), this method can be used to evaluate attitudes, experiences, opinions, and preferences of chosen group of people. Method of questionnaire surveys is often treated as highly formalized and standardized.

Third, interviews are usually open-ended, as researcher may ask questions both about facts and opinions. In interviewing approach attention is also paid to non-verbal signs, because there are possible inaccuracies due to poor recall of reflexivity, as people may say what interview wants to hear (Gummesson, 1999).

Fourth, observations can be served as another source of information. Observations cover events in the real time and helps to get an understanding of current processes, as well as, it bring an insight on interpersonal behaviour and motives (Gummesson, 1999). Observations usually take place in a natural context of studied phenomena and, generally, go beyond the words and numbers. Observation, however, is also a time-consuming method, which can also result sometimes in low reflectivity, as people might behave differently when they are observed.

Finally, the concept of action science (or action research) is reserved for the situations when researchers assume the role of change agents of the processes and events they are simultaneously studying. It requires the total involvement of the researcher. Applied to the study of business corporations and marketing, the action researcher can be a person who is both an academic researcher and either a marketing practitioner or an external consultant, a consumer or a citizen (Gummesson, 1993).

Practically, in order to reach the best possible results of the case study, these methods are oftentimes used in various combinations (Gummesson, 1993). In fact, the use of multiple methods of data collection in case research is claimed to increase the reliability of data being gathered (Voss et al., 2002). Finally, different methods have both merits

and drawbacks, and therefore the research should analyze carefully and precisely in accordance with the nature of phenomena.

This thesis is based on a study conducted within the industry and the goal is to analyze the marketing strategy for Pegasor entering into Chinese market. The researcher has involved in Pegasor's various activities in China, such as attending the technique training, conferences, seminars, as well as business meetings. These activities formed the foundation for the research method as qualitative constructive case study.

Case study provides a structure to observe factors such as events, activities, processes or individuals (Creswell, 2003). Conducting field case study in management implies being exposed to real problems, creative insights of employees at all the organizational levels as well as various other complex contextual factors of actual cases (Voss et al., 2002). Qualitative approach is more oriented on gathering data through interviews, observations and analysis of gathered data through qualitative data analysis methods (Bryman and Bell, 2007). Moody (2002) lists the most common qualitative methods, including: 1) case study research is done by observing conducted in real world settings with a goal to put researcher into the situation and get a holistic understanding of the phenomena; and 2) action research is an application of idea in practice, result evaluation, and further idea modification.

Data gathering method used in this research is a combination of existing material analysis and action science. These methods were chosen due to the specificity of data in demand and in general conformity with the needs of the study. First, existing materials such as corporate information, financial reports, and marketing materials were utilized in order to retrieve the required data. Second, in terms of action science method, the researcher conducted the study in a position of a thesis worker, which allowed the everyday exposure to the actual operations occurring in the business organization, such as business seminar, conference and trips, communicating directly with the customers.

This study is constructive as it is based on gathering empirical data, followed by analysis and developing the framework, and applied it to the practical work. Therefore, study included following steps: definition of the research problem, review of existing theories and literature, construction of framework, application and prove of the framework in the case company, and conclusions.

3.2. Pegasor Case Introduction

There are four business areas of Pegasor Oy:

- Engine emission monitoring
- Stack emission monitoring
- Outdoor air quality monitoring

- Indoor air quality monitoring

First of all, there are three products related to the engine emission monitoring, on board diagnostics (OBD) sensor, in use emission testing (vehicle inspection), and portable emission monitoring system (PEMS), which are shown below in order:



Figure 7. Engine Emission Monitoring Products

Second, stack emissions must be treated before released into atmosphere to “clean” of pollutants. With Pegasor technology fine particle emissions can be monitored in real time. Current regulations and certified protocols (PM10 and PM 2.5) for mass measurements are assumed to include fine particles.



Figure 8. Stack Emission Monitoring Product

Third, Pegasor Urban Air Monitoring System (PUAMS) is based on a dense Pegasor Particle Sensor (PPS) network. The network provides real-time spatial information on particle concentration (both PM_{2.5} and PN_{2.5}) in the urban area. Air Quality network design is an important issue for the network functionality. The PPS sensors need to be placed at representative spots, like highways, local streets, parks, industrial areas, areas with small scale combustion, etc.

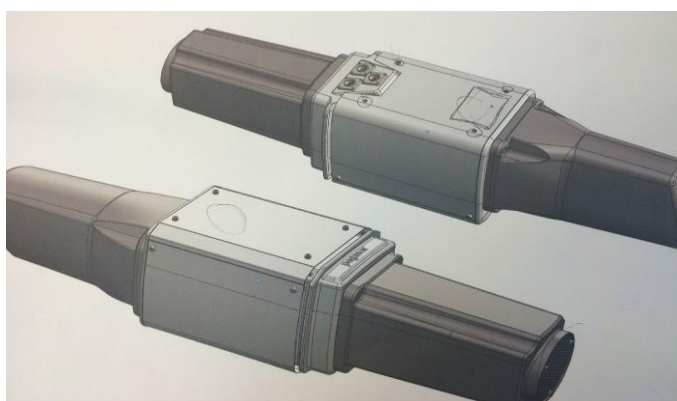


Figure 9. Outdoor Air Quality Monitoring Product

Fourth, Pegasor sensors are used to monitor indoor air quality in professional and commercial applications. The information gained from real-time fine particle concentration levels is especially useful in the following environments and application areas:

- Indoor vs. outdoor air particle concentration monitoring;
- Securing proper filter performance in centralized air treatment systems or individual air purifiers;
- Securing employee safety in industrial plants where ultra-fine particles are used or born in process;
- Monitoring air quality in public buildings, commercial estates and households.

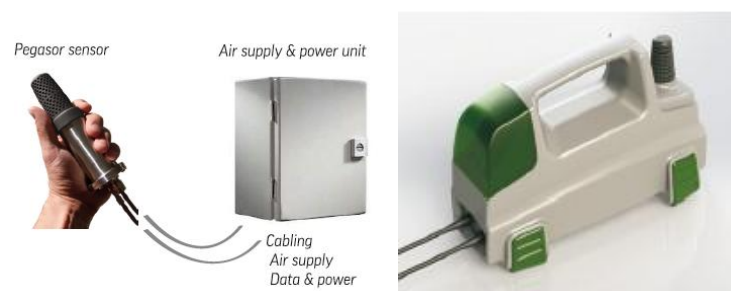


Figure 10. Indoor Air Quality Monitoring Products

3.3. Performing the Research

In the most general sense, research process describes the progression of the study and chronological order of the actions practically taken within the research. The main research process carried out in the case company could be presented in Figure 11.



Figure 11. Timeline for the Research Process

As it can be seen from Figure 11, before the author officially started working in Pegasor, the first meeting on 30.01.2013 with supervisor from the case company and professor from university took place at the Tampere University of Technology, Tampere, Finland. In this meeting, the topic, objective, scope and other practical issues were discussed and agreed.

The process has officially started on 1.03.2013 when the author joined Pegasor as China marketing analyst. In the following two months, the author was dedicated to study the case company business (e.g. business areas, resources and existing market), products

(e.g. different applications), and technology (e.g. working principle and comparison with competitors).

In order to have more comprehensive understanding of Pegasor, the author also communicated frequently with employees from different departments, as well as the customers and partners in Europe. In the same period, the process of reviewing relevant literature was initiated, and it was studied for the whole duration of the research. Management research is a balanced process of embracing theoretical and empirical grounds in order to generate new valuable knowledge (Worrall, 2002).

The primary data is collected through the trips to China. In order to conduct the PESTEL analysis, scanning the business environment, especially when considering the social and legal factors, some first-hand experience in China is necessary and helpful for the research.

The first visit to China took place in May 2013. Main tasks for the visit were formulated as to have close look at the Chinese market from the point of view of PESTEL analysis, as well as carry out some practical programs. Accordingly, during this visit the researcher involved in a series of activities, such as joining the industry conferences, meeting partners and potential customers, etc. The first hand information was gathered by the researcher, documented as user feedback, minutes of meeting and trip reports, which were accepted by the case company.

In June 2013, theoretical framework was created based on literature review and the actual trip to China. Thus, the researcher had been developing theoretical framework for the case company from June- August 2013. It focused on the market chasm, culture difference between Finland and China, and attention paid to legal issues.

In September, the thesis review meeting took place in the company premises. Thesis meetings implied presentation of intermediate results and discussions on the progress of the study. The attendees of these meetings from the case company side involved R&D engineers and Vice President for marketing and sales. The presentation got positive comments and constructive feedback. Furthermore, it brought more discussion about entering into the market.

Another trip to China was made in November 2013. The purpose of the trip was to join the 'Beautiful Beijing' conference, which is organized by the Chinese Ministry of Environment Protection (MEP) and the Finnish Funding Agency for Technology and Innovation (TEKES). There were more than one hundred companies, mainly limited to Finnish and Chinese companies, attending the conference. In this conference, some specific topic seminars and match making accorded simultaneously. The researcher gained better understanding about the cooperation between Finland and China from

political, legislative point of view. Meanwhile, the match making provided more opportunities meeting the potential partners and customers.

Based on the foundation of the literature review and the actual work, Pegasor started the project negotiation with the partner in January 2014, and the official contract was signed in March 2014. The first payment was received in April 2014. In the contract negotiation process, the researcher would take care of the whole product plan together with partner for the outdoor monitoring system, translation work (language), culture differences, and the exporting and importing legislation.

Finally, the presentation of results was held in March and April 2014. The former one was presented to the Monitor, Measurement, and Environment Assessment (MMEA) program in the Finnish industry cluster. The latter one was for the management team in the case company. Pegasor has provided the researcher with great support in the whole process.

4. RESULTS

Chapter Four represents the empirical part of this thesis. Developed in the Chapter two, the theoretical framework that suggests how to cross the chasm will be implemented in the real case in this chapter. In other words, in course of this chapter the theoretical framework is gradually applied to the case company, Pegasor Oy for the Chinese market.

4.1. Choosing the Target Market for Pegasor

Choosing the target market reasonably and practically is of great importance for companies to promote the business in Chinese market (Liu et al, 2012). Based on the framework for crossing the chasm described in Chapter two, the company, first of all, needs to find the target market as the beach heading, Figure 12 below.



Figure 12. Choosing the Target Market

For the first round selection of the target market, there are nine elements included, divided into two groups: 1) show stopper group: target customer, compelling reason to buy, whole product, competition; 2) nice to have group: partners and allies, distribution, pricing, positioning, next target customer. Each factor is scale of 1-5: (Score 1) No, (Score 2) fair, (Score 3) good, (Score 4) very good; (Score 5) excellent. The score is also taking the discussion with the partners and PESTEL in China into consideration. So the final score is the combination of the existing and potential customers and the business environment in China.

The higher score is the better for choosing the target market. They are discussed in Table 7 below:

Table 7. Showstopper- First Round Selection of the Target Market of Pegasor Oy

Showstopper- First Round Selection of the Target Market of Pegasor Oy				
	Engine emission monitoring	Stack emission monitoring	Outdoor air quality monitoring	Indoor air quality monitoring
Target customer	1. Nankai University 2. Zhejiang University <i>Score: 5</i>	No <i>Score:1</i>	1. Nanjing Environment Protection Bureau 2. Guangzhou Luogang Development Zone <i>Score: 5</i>	1. Jinan DaLu Mechanism & Electron Co.,Ltd-new office building 2. Wuxi CAS Photonics CO. Ltd <i>Score: 5</i>
Compelling reason to buy	1. Monitoring the engine emission real time 2. Low cost <i>Score: 3</i>	No <i>Score:1</i>	1. Monitoring for the urban air quality real time 2. Low maintenance 3. Source apportionment <i>Score: 4</i>	1. Showing the indoor air quality 2. Control the HVAC <i>Score: 3</i>
Whole product	1. It can be integrated with equipments monitor other gas (e.g. NOx, SO2) 2. It takes more than six months. <i>Score: 2</i>	No <i>Score: 1</i>	1. Can integrate with other meteorological instruments, Fusion model for the air quality forecasts and source apportionment 2. It takes about one month. <i>Score: 4</i>	1. Can integrate with HVAC or household air purifier, indicate the air quality indoor and monitor if the purifications work or not 2. It takes less than one month. <i>Score: 4</i>
Competition	1. Mass concentration monitoring equipment 2. Number concentration monitoring equipment <i>Score: 2</i>	No <i>Score: 1</i>	1. Standard monitoring methods: weighing method TEOM (Tapered Element Oscillating Microbalance) <i>Score: 3</i>	Optical sensor <i>Score: 3</i>
Total score	12	4	16	15

From the ranking, outdoor air quality monitoring is No. 1, and the indoor air quality monitoring is the second one. These two markets' scores are much higher than the other two markets. So outdoor quality monitoring and indoor air quality monitoring will enter into the second selection round, 'nice to have' group.

Table 8. Nice to have- Second Round Selection of the Target Market of Pegasor Oy

Nice to have- Second Round Selection of the Target Market of Pegasor Oy		
	Outdoor air quality monitoring	Indoor air quality monitoring
Partners and allies	1. Partner for urban air quality monitoring 2. Partner for smart city planning <i>Score: 4</i>	1. Partner for automation control system 2. Partner for household air purifier <i>Score: 3</i>
Distribution	The distribution channel based on the partnership <i>Score: 3</i>	1. The distribution channel based on the partnership 2. Small scale distribution channel trial <i>Score: 4</i>
Pricing	Distribution-oriented pricing <i>Score: 4</i>	Product-oriented pricing <i>Score: 2</i>
Positioning	High quality and good pricing <i>Score: 4</i>	High quality <i>Score: 3</i>
Next target customer	1. Tianjin Environment Protection Bureau 2. Hebei Province urban air quality monitoring project <i>Score: 3</i>	1. Kerry center building 2. Other high- quality office building <i>Score: 2</i>
Total score	18	14

So the final result is below:

Table 9. Result of Choosing the Target Market

	Outdoor air quality monitoring	Indoor air quality monitoring
The first round score	16	15
The second round score	18	14
Final score	34	29

From Table 9, the outdoor air quality monitoring gets the highest score of 34. So this market will be the point of attack for crossing the chasm. After the target market has been selected, it comes to the whole product plan.

4.2. Whole Product Plan for Pegasor

Based on the framework for crossing the chasm described in Chapter two, after narrowing down to the target segment- outdoor air quality monitoring market, the company needs to make the whole product plan, which includes two parts, the whole product definition and partners and allies.

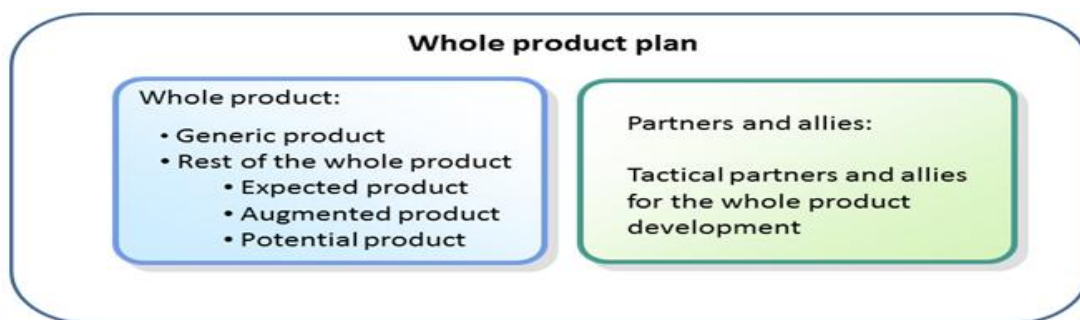


Figure 13. Whole Product Plan

The whole product

Prior to entering into Chinese market and developing the business, it is important for Pegasor to develop the effective integrated solution so as to bring about benefit and value for every stakeholder.

The company can use The Whole Product Model for defining the whole product, and find out what is the core competence from the company, and other responsibilities must be taken by partners and allies. The information was gathered by the process of Pegasor's business development in China, including the discussion with researchers and experts, existing customers, partners, to define Pegasor competency and the potential, which are illustrated in Figure 14:

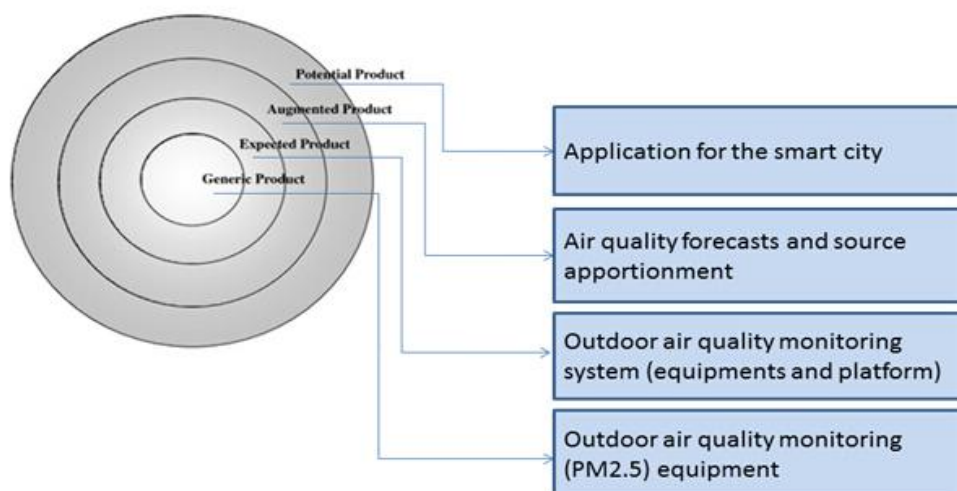


Figure 14. Whole Product Model for Pegasor

Recalling that the whole product is the minimum set of products and services needed to fulfil the compelling reason to buy for the target customer. The product plan is analyzed based on the analysis of Pegasor products and resources, as well as partners' business and capabilities, which are discussed below:

Table 10. The Whole Product Analysis of Pegasor

<p>Pegasor products:</p> <ul style="list-style-type: none"> • Outdoor air quality monitoring sensor • Outdoor air quality monitoring equipment • Outdoor air quality monitoring mobile user interface • Data processing
<p>Pegasor services:</p> <ul style="list-style-type: none"> • Know-how of the aerosol science • Training package • Control software
<p>Non-company products and services</p> <ul style="list-style-type: none"> • Monitoring platform • Other meteorological instruments, e.g. air temperature, humidity, pressure, wind speed, wind direction and precipitation • Air quality forecasts model • Onsite installation • Sales and after sales

The commitment to the whole product leads to other products and services from the partners and allies.

Partners of Pegasor:

Nanjing Intelligent Transportation Co., Ltd (NJIT) is a high-tech company, located in Nanjing, Jiangsu province, China. The business areas of NIT is shown in Figure 15:



Figure 15. Business of Nanjing Intelligent Transportation Co., Ltd

NJIT has previously built ‘Electronic Law Enforcement Platform for Joint Prevention and Control of Motor Vehicle Pollution’ in Nanjing, China. The whole system includes 518 Data Collection Base Station and the Vehicle Pollution Emission Model. So combining outdoor air quality monitoring equipment (Pegasor) and Vehicle Pollution Emission Model (NJIT) form the whole product for the ‘outdoor air quality monitoring system’, including the monitoring equipment and the platform.

In this market, the target customer is the local Environment Protection Bureau (EPB), and the whole product provides the customer the compelling reason to buy for monitoring the urban air quality in real time with low maintenance, and vehicles which enter environmental protection, low carbon zones but fail to reach the standard for environmental protection grade are snapshotted, recorded, uploaded to the platform so as to enable electronic law enforcement in forbidden zones for environmental protection.

Furthermore, every additional target customer will put new demands on the whole product- this means that the company cannot go after all markets at once: have to sequence and priorities opportunities.

Another partner of Pegasor is Zhejiang Insigma Group Co., Ltd, a company located in Hangzhou, Zhejiang Province, China. Insigma is a diversified conglomerate whose extensive business portfolio covers IT solutions, environmental protection and energy-saving solutions, and urban infrastructure construction solutions. Smart City is one of their strategic business areas. Insigma made a proposal for ‘Infrastructure of Smart City Based on Internet of Things (IOT)’ to Guangzhou Luogang Development Zone. It includes the Internet of Things System, Intelligent Lighting System, Air Quality Monitoring System, Intelligent Operating Center (IOC), and Operation Model:



Figure 16. Content of the Smart City Proposal to Guangzhou, China

So in this market, the whole product is the Smart City platform, including IOT system, lighting system, air quality monitoring system, and mutual benefit business model. This requires more complex integration of different products, systems, companies. In other words, it demands more resources, time, and money. So Pegasor is the air quality system supplier, and Insigma is responsible for the whole product. Since the partners are large companies, Pegasor also needs to pay attention to the cooperation in the practical way, but not too general level, not to waste time and resources.

4.3. Positioning and Competition for Pegasor

Pegasor has chosen the outdoor air quality monitoring as the target market, and mapped out the whole product is outdoor air quality monitoring system together with the partners and allies. Now the barrier in the way now is competition. The company needs to have a right understanding of the competition and analyze how to position company itself in the selected segment.

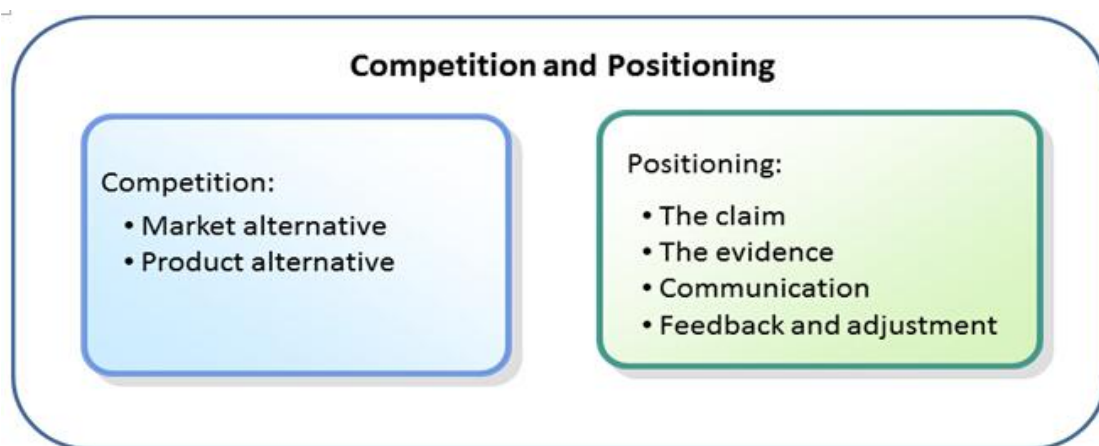


Figure 17. Competition and Positioning

Competition

As discussed in Chapter two, creating the competition requires two competitors as beacons, market alternative and product alternative:

- Market alternative
- Product alternative

Market alternative

In the outdoor air quality monitoring market, the traditional way of monitoring PM_{2.5} is done by gravimetric method (HJ 618-2011, p. 1). The basic methodology is using certain type sample splitters to extract certain amount of air at a constant speed, accumulates the PM_{2.5} in the air on a filter. Then people can calculate the concentration of PM_{2.5} based on the weight. One example of gravimetric method equipment and filter is shown below:



Figure 18. Gravimetric Method Equipment and Filter

This method has some major limitations:

- Response time: normally by hours, cannot achieve real time monitoring;
- Maintenance: expensive and complex. The filter needs to change every day, and the price is high. Human resources: person in charge of changing the filter and analyzing the result.

Pegasor is able to bring to this market a radically discontinuous innovation:

- Continuous, real time monitoring of PM2.5, normally by seconds or minutes;
- Low need of maintenance & service, continually working 8000 hours without maintenance; calibration once a year.

Because the target customer has been buying the gravimetric method equipments for years and there already exists the budget for the offering, the gravimetric method equipments make suitable *market alternatives* for Pegasor outdoor air quality monitoring. Referencing to them made clear who are Pegasor's target customers and what is the compelling reason to buy.

Product alternative

Nanjing cStor Technology Co., Ltd (cStor) went beyond the conventional gravimetric method and developed its own PM2.5 monitor as a cloud platform. Using optics theory, they now can give real-time air quality reports in fine regions by deploying the system in a large scale. Also, the system can predict the propagation of pollutants, which helps the policy makers to manage the environment. Figure 19 shows their products and system. (http://www.cstor.cn/textdetail_5944.html)



Figure 19. cStor Equipment and System (cStor website)

Because cStor has also harnessed a discontinuous innovation, different from the traditional gravimetric method for the outdoor air quality monitoring, however, the most challenging problem for the optical sensor is to monitoring the particle size smaller than 300nm, which contributes most of the part for the number concentration. This leads to the monitoring result is not reliable. Pegasor equipment can monitor the particle size down to 20nm. The cStor fits nicely for the product alternative of Pegasor.

Positioning

Based on the discussion of the target market, whole product plan, and the competition definition, the next step is to make the product easy to buy, by positioning the company products. The goal of positioning is to create and occupy a space inside the target customer's head.

The market alternative (traditional gravimetric method) helps the company to identify the target customer (local EPB) and compelling reason to buy (real time, low maintenance air quality system). Similarly, the product alternative (cStor) helps appreciate the technology leverage (real time, low cost monitoring) and the niche commitment (reliability monitoring result).

Pegasor need to summarize the competitive claim to a two-sentence formula by elevator test and the two-sentence formula is: our product is a real time, low need of maintenance outdoor air quality monitoring system for local EPB who are dissatisfied with the traditional gravimetric method monitoring. Unlike optical sensors monitoring from cStor which requires lots of maintenance work with low accuracy, our company provides long maintenance interval and real time & reliable monitoring results.

After passing the elevator test, the company has a clear position for the market, and next step is to demonstrate the fulfillment of the competitive claim through the quality of the whole product solution and the quality of the partners and allies.

4.4. Sales for Pegasor

After choosing the target market, developing the whole product solution with the partners and allies, getting clear picture in the market by positioning, it finally comes to the sales of the company. It is necessary for the company to look at two parts: distribution channel and the pricing.

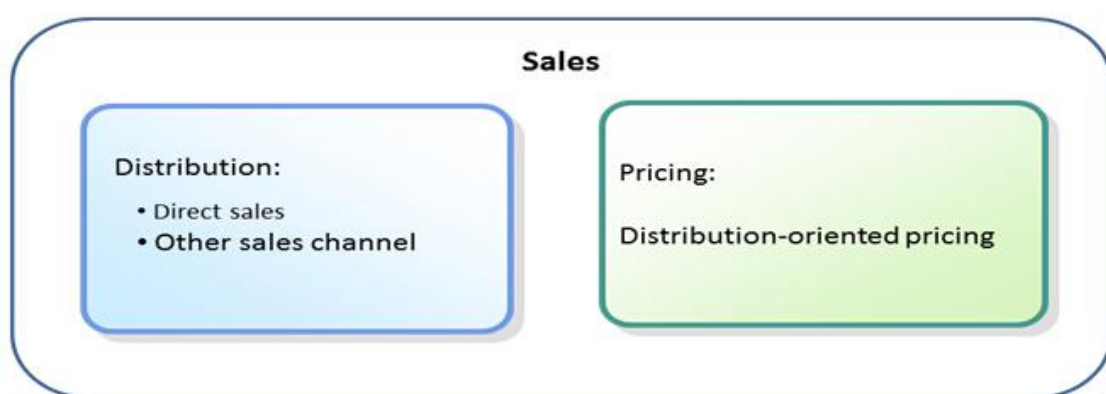


Figure 20. Sales for Pegasor

Distribution

In the case of Pegasor, this part is also related to the partners and allies. Pegasor has built the relationship with Nanjing Intelligent Transportation Co., Ltd, and formed the whole product of outdoor air quality monitoring system. NJIT has previous projects for the target customer- Nanjing EPB, and already built good and professional image in the customer. So the distribution channel here is planning whole product together and accessing to the target customer directly.

For the partner of Insigma group, who has integrated varies applications of the Smart City for the target customer- Guangzhou Luogang New Development Zone. This is a Super- VARs distribution channel. Super-VARs are a channel that is proposed from time to time for markets which need value-added services to be consistently provided across a broad geography into a cost sensitive category (Moore, 2006, 179). The customer wants the security of working with a well-funded organization, which matches Insigma group well.

NJIT has a good reputation among the local EPB in Nanjing, Jiangsu Province. Insigma got access to the local New Development Zone, Guangzhou. Both of them have the

relationship with the target mainstream customer. But not one company or distribution channel can cover all over China. So for other local EPB or cities, Pegasor needs to have different distributions in different region. According to Moore (1991), the criteria for selecting the distribution are shown in Figure 21:

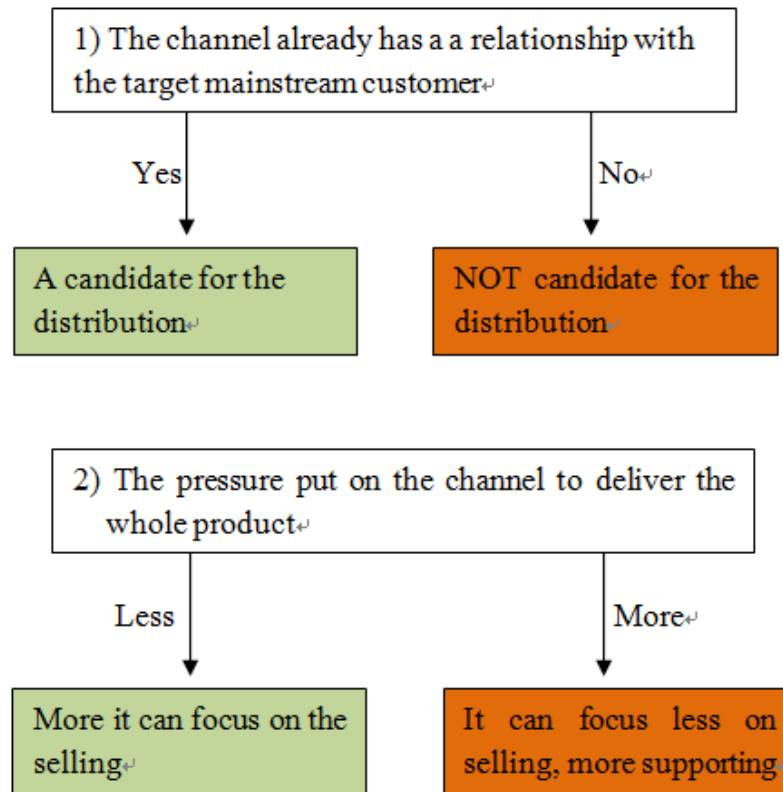


Figure 21. Criteria for the Distribution Selection

Figure 21 provides further view for selecting the distribution and partners. First of all, if the channel already established relationship with the target mainstream customer, it can be a candidate for the distributor. If not, it is very difficult to work as a distribution channel. Secondly, the pressure put on the channel to deliver the whole product is less, the more it can focus on selling, the more possibility to be a distributor.

Pricing

Pegasor has low margin for the partnership, or for the distribution channel. The purpose of performing this is to motivate the distribution to sell with higher reward, especially in the crossing the chasm period. With the reward, the distribution will push the products harder into the market. This will return Pegasor more customers and references for the mainstream markets.

5. CONCLUSION

This chapter provides the general examination of the study outcomes as well as the conclusion of the thesis. The chapter consists of four sections. The first section provides the results and discussion. The second section presents the limitation of the thesis. The third section is topics for future research. The last section is the summary of theoretical and practical work for the case company.

5.1. Discussion

The goal of the thesis was to: 1) find ways how can the SMEs based in Finland, successfully enter into the mainstream Chinese market, and 2) further to provide the action plan in China. The goal was realized through the attainment of the study objectives, specified as follows:

- 1) For the first research question: providing a practical framework for crossing the chasm from the early markets to the mainstream markets, and the framework has to be applicable for the analysis of the factors for crossing the chasm, regarding to the PESTEL analysis and the entry model.
- 2) For the second research question: the framework has to facilitate the case company to carry out the action in particular to expand the business in Chinese market.

First of all, the business environment is suitable for the business Pegasor development in China, such as the policy support for the environment protection business, steady grow economy, stable society, large population which means more human resources, the positive attitude towards the high technology.

Second, there are different types of market entry modes, basically including exporting and investment. Both modes are possible for the case company. In the process, Pegasor need to take the legal process, such as certification, custom, duty fee, taxation and regulations into consideration.

Third, the thesis results in the framework for crossing the chasm in the markets. Combination of the introduction and impact of each factor are presented, essentially serves as the foundation of the framework, including choosing the target market, whole product plan, competition and positioning, sales of the company. In that sense, it is highly important not to separate the four steps, but consider them as a whole:

1) Choosing the target market:

The key point of choosing the target market is to focus on one, and only one target market as the point of entry. Go through the checklist and practice to find the bench heading market. This process needs comprehensive analysis of each factor and keeping the big picture in mind as well from the business point of view.

2) Whole product plan

The key point of whole product plan is to define the generic product of the company and what other products from the partners and allies. It is also need to remember to review the whole product from each participant's aspects to achieve the mutual benefits.

3) Competition and positioning

The purpose of creating the competition is to make sure that there exists the budget to purchase the company's offering and differentiation, by the market alternatives and product alternatives. One key for the positioning to pass the elevator test and keep the communication within the boundary set in the core competency. All the competitive advantages claimed in the elevator test need to be fulfilled in the real practices.

4) Sales

Sales of the company hit the points of launching the products to the mainstream market. Without a proper distribution channel, the products cannot access to the pragmatists. Without a constructive pricing strategy, the distribution cannot be motivated enough to push the products to the customer. So the right choice should be customer-oriented distribution channel and distribution-oriented pricing.

Fourth, the developed framework along the work for the case company was vastly utilized for analytical purpose. In particular, it enabled detailed analysis of each aspect and the role in relation to the business performance:

1) Analysis of choosing the target market

There are four business areas of the case company. The company needs to go through the checklist and choose one target segment. By ranking the total score of the checklist, the company can make the decision which market to go. If the company cannot choose any scenario, then stay in early market and not to cross the chasm.

2) Analysis of whole product plan

It's the process to review the generic product of the case company in the target market, and develop the whole product with partners and allies. Since the pragmatist customer demands for the whole product solution, not pieces of each component.

3) Analysis of competition and positioning

The competition analysis is to make clear for the case company who and what the competitors in the selected market context are, and further to differentiate itself.

4) Analysis of sales

When it comes to the sales, the case company needs to define the best distribution channel and the pricing strategy to motivate the channel.

The framework and analysis provided practical information, which was delivered and communicated to the case company. Indeed, the study managed to facilitate the ability

of case company to enter into Chinese market, and it is good to end the thesis with a contract for the commercial project in Nanjing:

1) Action of choosing the target market

The target market narrowed down to the outdoor air quality monitoring after the analysis of choosing the target market, comparison of the four business areas.

2) Action of whole product plan

The generic product of the case company is the outdoor air quality monitoring equipment, and the aerosol science knowledge in addition. The whole product will be the outdoor air quality monitoring system, which combined the monitoring equipment and the platform. It can also be expanded to the smart city concept, which requires more application and integrator.

3) Action of competition and positioning

The market alternative for the case company is the traditional gravimetric method, and the product alternative is the cStor optical sensor. The next step for the case company to differentiate in the target market is to shown in the real project will be carried out in Nanjing, to demonstrate all the promises it has made.

4) Action of sales

The current distribution channel is direct sales and through partners based on the demands of the whole product from the customers. There are two scenarios in the future for the case company: i) selecting different distribution based on the developed whole product. This will enable the distribution focusing more on the sales, not supporting or integration; ii) building different whole products with different partners and allies for different customers.

Ultimately, during the whole process, there are two elements need to keep in mind for the company, and the company will in anyway face them, are the culture and legal differences between Western and Eastern, precisely, Finland and China. It will be benefit for the company to know this before going to China, and overcome, at least to prepare itself for the differences. This thesis takes Pegasor Oy as the case company, which an SME based in Finland. It will be beneficial for other Finnish SMEs to do the business environment scanning by PESTEL and select the market entry mode based on the analysis of their own companies' business areas and apply to the framework for crossing the chasms.

5.2. Practical Recommendations

In order to provide the practical recommendations for the Finnish SMEs successfully enter into Chinese market, it will be helpful to review the chasms between Finland and China, including 1) the market chasm; 2) the culture chasm; and 3) the legal chasm.

First of all, Pegasor has built some connections in early stage with the Chinese research organizations, such as National Institute of Metrology and Nankai University, which are regarded as the early adopters (visionaries). Pegasor's aim is to expand the business in China to the mass customers, which defined as the early majority (pragmatists).

According to Moore (1991), in order to be successfully transferred from the early market to mainstream market, it is also the question how to achieve moving smoothly from visionaries to pragmatists.

The companies need to figure out how to cross the chasm between the two groups, focusing on the major differences, moving from the product-centric to the market-centric. In the process of moving the focus from product (e.g. breakthrough technology and functionality) to the market: 1) selecting the attacking point, target market; 2) cooperating with partners and aliens to provide the whole product (e.g. generic product, potential product and services) for the customers; 3) positioning and differentiating from the competitors in the selected market; 4) establishing the sales strategy, including the distribution channel and pricing.

Secondly, understanding of culture differences will help the Finnish SMEs to overcome the cultural barriers to enter into Chinese market. Finland is: 1) low power distance; 2) individualism; 3) femininity; 4) high uncertainty avoidance; and 5) short-term orientation. On the contrary, China is: 1) high power distance; 2) collectivism; 3) masculinity; 4) low uncertainty avoidance; and 5) long-term orientation.

These cultural differences will have big impact on the way of people's communication, training, business negotiation, customers' decision making, and selection of partners. To be specific, such as the target customer, partners & alliance, as well as distribution channel.

Thirdly, there are different ways of Finnish SMEs or the products legally presenting in China. It will be beneficial for the companies to choose the best legal way of entering into Chinese market, including exporting and investment. Exporting contains direct exporting and indirect exporting. Investment includes WOFE, JV, representatives and partnerships. Each succeeding strategy involves more commitment, risk, control, and profit potential.

The case company, Pegasor Oy, combines exporting and investment entry mode. On one hand, the case company exports the outdoor air quality monitoring equipments to China directly, and the need to take care of the custom clearance, for example the duty fee and VAT; on the other hand, it builds the partnership with Chinese company who is responsible for the system solution. To be specific, Pegasor provides the equipments and the Chinese partner offers the software and platform integration for the end users.

After reviewing the chasms between Finland and China, the suggestions for companies entering into Chinese market will focus on practical issues. First of all, the Finnish SMEs need to analyze the company business areas carefully and based on the nine factors , including target customer, compelling reason to buy, whole product,

competition, partners and allies, distribution, pricing, positioning and next target customer to select the target market.

Second, it is important for the company to build the partnerships in China. The company need to make the whole product plan, which defines what the company provides and what the partners & allies offer. This will provide the system solution for the end users.

Third, the company need to differentiate itself from the competitors. For example, high accuracy, high quality, high price, Nordic style design, low maintenance, which differentiates from low accuracy, low quality, low price, no style design, frequent maintenance.

Fourth, the sales will be the key point for the company to get income. It includes two aspects that the distribution channel and the pricing strategy in the crossing the chasm period. The company need to establish the distribution channel to sell the products, and the end customers will finally access to the products through the channels. Meanwhile, the distribution channel also need to get enough motivation to sell the products, which regards to the pricing strategy. In the crossing chasm period, the products are new for the end users (early majority), so it requires more work for the distribution channel to promote and sell the products, which means the company need to give more margins for the distribution channel.

5.3. Limitations of the Thesis

The thesis unavoidably has a number of limitations that are worth of mentioning:

First, the thesis was devoted to a single case company, thus potentially limited the application and further proof of the results. The use of the single case could not prove other cases can use the exactly strategy. However, the purpose of the thesis was aiming at achieving the specific goal related to the actual problem of Pegasor.

Second, due to the specificity of the task given by the case company, the thesis very focused on crossing the chasm between visionaries and pragmatists in the Technology Adoption Life Cycle. How to move other parts smoothly in the curve, e.g. from pragmatists (early majority) to conservatives (late majority), late majority to the laggards, are not discussed in the thesis. Because of the different natures of the groups in the life cycle, the marketing strategies will vary much accordingly.

Third, the theoretic review mostly based on the resources from Moore, *Crossing the Chasm*, which mainly focused on the US market. When the context changes to Finland and China, it needs more careful analysis of the market. So this is also the reason why the culture and legal parts are discussed in the thesis.

5.4. Topics for Further Research

This thesis introduced the framework of crossing the chasm from the early markets to the mainstream markets, and it has been applied for one particular company. However, it would be interesting and beneficial to test designed framework for other companies among various industries, in order to get more detailed feedback on it.

Moreover, this thesis opens many other possibilities for further research. It would be helpful to investigate further marketing strategy for the curve moving from the visionaries to the conservatives. This not only helps the company to have a whole understanding of the Technology Adoption Life Cycle, but also to take more benefits from the market, since conservative accounts for one third of the curve.

Finally, for the case company, it will be meaningful to study, after the bench heading market- outdoor air quality monitoring market has been successfully entered, what is the next target market to hit, and chart out the strategy as well. Meanwhile, it would be worth of trying to study other markets, and find out if American and other Asian markets can be managed the same way.

5.5. Summary

The air quality pollution in China has draw enormous attentions from the whole society, and the government shows strong determination to deal with the problem, and provide funding as well. This provides huge business opportunities for companies to dive into the market.

The thesis was conducted on the work of the case company and the overall goal was to find ways to enter into the Chinese market. The objective was reached by the development of the specific framework of crossing the chasm from the early market to the mainstream market. In order to achieve the goal, based on the reviewed literature, the study developed certain theoretical framework, which then was applied to the practical company case.

In the result of this thesis, the case company received developed framework for crossing the chasm, it begins from selecting the target market, follows the whole product plan, competition and positioning, ends with the sales of the company. In practice, the case company closed one deal for an outdoor air quality monitoring project, both for the equipment and the training package by finishing the thesis. So the actual work is along the whole way hand in hand with implementing and adjusting for the theoretical study.

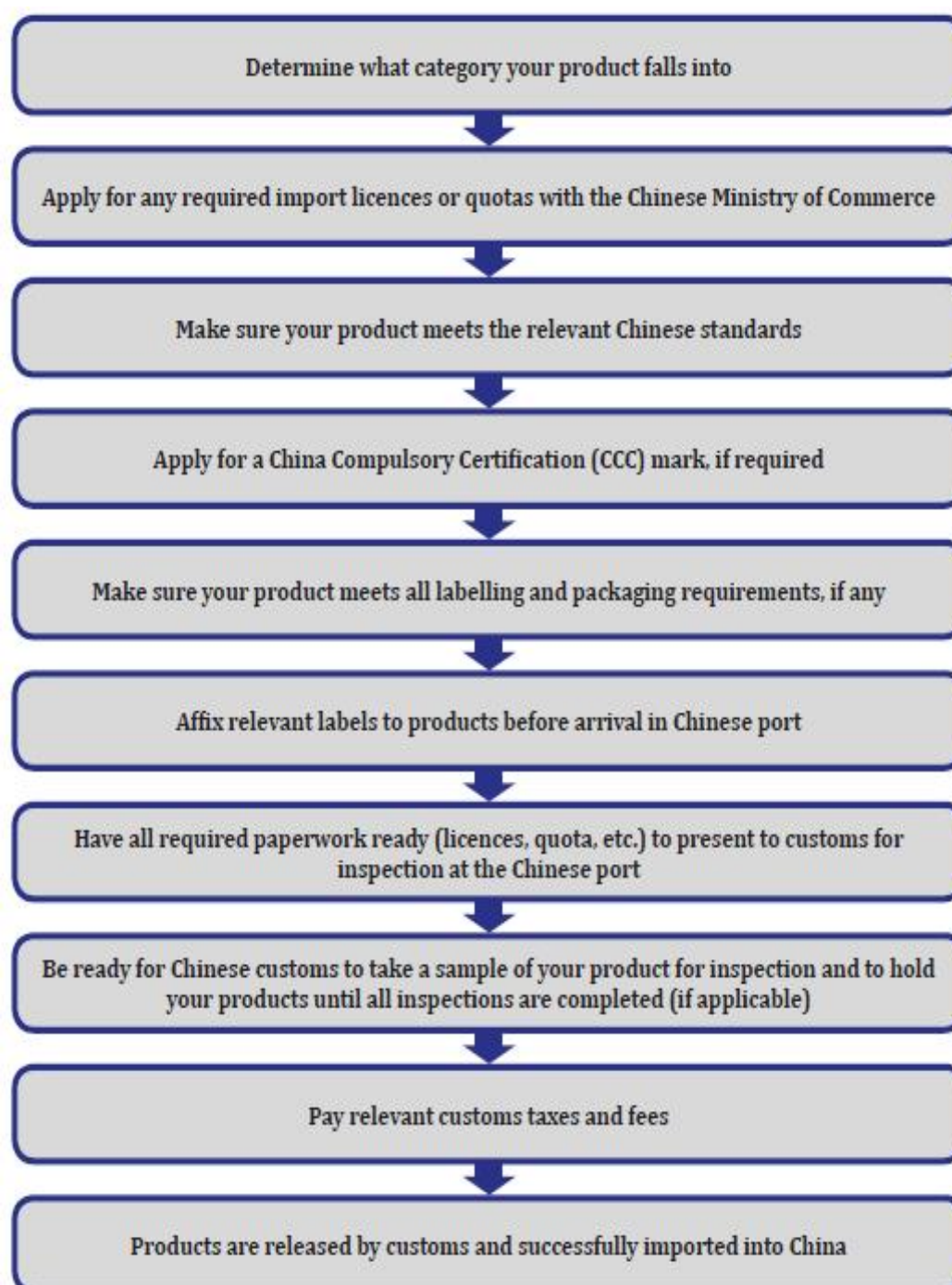
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APPENDIX1 PROCESS FOR EXPORTING THE GOODS TO CHINA

Source: EU SME Center

First of all, the exporter needs to determine what category the product fall into. New Foreign Trade Law of The People's Republic of China (2004) classified goods into three categories: free imports, restricted imports (under licence, quota tariff-rate quota management) and prohibited imports. Detailed information can be found in the webpage of China's Ministry of Commerce (MOFCOM). More information can be found in Appendix 3.

Second, the importer must receive approval in the form of an import licence from MOFCOM before importing certain goods. Obtaining the proper registration and licence is the responsibility of the importer. It is important to verify whether the product requires an import licence prior to shipping the product.

Third, the company has confirmed the import category the goods fall into and researched the necessary paperwork, and then the company needs to ensure that the product meets the corresponding Chinese standards, e.g. the national standards, or GB (guobiao) standards are mandatory. The detailed information can be found in Appendix 3.

Fourth, The China Compulsory Certification (CCC) mark is China's national safety and quality mark. It is a compulsory safety mark that must be obtained before certain products can be imported and sold in China. The CCC mark is administered by the Certification and Accreditation Administration (CNCA) and the China Quality Certification Centre (CQC). It takes around 4-5 months to go through the certification process. CNCA's full catalogue for CCC mandatory products can be found in Appendix 3.

In addition to GB standards and the CCC mark, there may have some other industry standards the company need to meet, e.g. labelling, packaging, labels. This requires more diligent work, which can be achieved together with the partners or third company in China.

When the products arrive at the Chinese port, they will need to clear Chinese customs inspection. So the documents need to be prepared beforehand.

Many taxes and fees are associated with exporting goods to China. The most common ones are customs duty and value-added taxes (VAT). More information can be found in Appendix 3.

(Source: EU SME Centre)

APPENDIX 2 PROCESS FOR THE TECHNOLOGY TRANSFER TO CHINA



Source: EU SME Center

First of all, prepare file for IPR protection. Make sure the company has filed for the appropriate IPR protection of the technology in question (patent, trademark, copyright, etc.) both within China and the home country before entering into technology transfer negotiations.

Second, confirm technology is legally importable into China. MOFCOM regulates the import of technology into three categories. So company needs to make sure if the technology is freely importable, restricted, or prohibited. For information can be found in Appendix 3. .

Select the Chinese partner. Choosing the right Chinese partner is paramount as a first step to protecting the IP in a technology transfer. The ideal partner will be complementary, but not well-positioned to directly compete with your business.

After the preparation work, the company can carry out the technology transfer implementation, e.g. the contract negotiation, close the deal, follow up the whole process and the relationship maintenance, etc.

(Source: EU SME Centre)

APPENDIX 3 KEY POLICY AND LEGISLATION

New Foreign Trade Law issued by the Chinese Ministry of Commerce (MOFCOM):
<http://english.mofcom.gov.cn/aarticle/policyrelease/internationalpolicy/200705/20070504715845.html>

Standardization Administration of China (SAC) has a database of more than 27,000 national standards, which can be searched in English:
www.sac.gov.cn/SACSearch/outlinetemplate/gjbzcx.jsp

CNCA's full catalogue for CCC mandatory products:
<http://www.cnca.gov.cn/cnca/rdht/qzxcprz/rzml/images/20080701/4755.htm>

Technology approved for import registration:
<http://fwmys.mofcom.gov.cn>