The Role of Market-Linking Capabilities for Sustainable PSS Innovation Towards Emerging Markets

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2016

Master of Science in Engineering Technology
Industrial and Management Engineering

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Master Programme in Industrial and Management Engineering – Strategic Work and Business Development

Spring 2016

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ABSTRACT

While shifting towards a more service oriented global economy, Multinational corporations (MNCs) operating in emerging markets start to realize the importance of combining products and services into sustainable product-service systems (sustainable PSS). MNCs should manage sustainable PSS innovation in order to provide customer value in various regional markets over time. To achieve this, regional units needs to develop market-linking capabilities, which enables them to respond and adapt to trends and changes on the market. However, the development of such capabilities can be challenging and prior research has not provided clear findings on how to do this. The purpose of this research was to increase the understanding of how market-linking capabilities can be developed to facilitate sustainable PSS innovation for MNC providers of medical technology in emerging markets. To fulfil this purpose, this research was conducted as a three-month site visit at a MNC’s Chinese sales unit that provides sustainable PSS in the medical technology industry. This company was chosen due to their way of working with sustainable innovation in international markets, and the multiple challenges they face when establishing a sales unit in China. This market is especially difficult due to its differences in the cultural, social, political and legal landscape. Working with sustainable PSS innovation in the medical technology industry is important since it could help overcome challenges related to this. The data collection relied on observations and interviews, which were held with employees at the HQ and sales units within the MNC. Existing literature did not provide any clarification of which market-linking capabilities that are important to possess at regional units, and a model for how to build market-linking capabilities was lacking. This research contribute to existing literature by identifying three important market-linking capabilities in a new, holistic context covering three levels; the internal unit, between different units in the company and between the unit and the external environment. The capabilities identified in this research are; Mutual understanding between the market and the region, Basis for interaction between the region and its internal and external stakeholders and Coordinate regional unit and streamline delivery procedures. It was shown that these capabilities are dynamic and evolve over time. A three-stage model for building these capabilities was identified, which consists of the stages Identify & Create, Use & Understand and Maintain & Develop, each
with corresponding activities. The model helps MNCs to meet challenges highlighted by previous researchers and provides Chinese sales units with a springboard for how to coordinate and organize resources.

Keywords: Market-linking capabilities; sustainable PSS innovation; Multinational Corporations; Emerging markets; Dynamic capabilities.
ACKNOWLEDGEMENT

This master’s thesis was written by Johanna Johansson and Madeleine Savela Nilsson, and is the final part of the authors’ master’s degree in Industrial and Management Engineering with focus on Strategic Work and Business Development at Luleå University of Technology.

We would like to thank David Rönnberg Sjödin for all the support, time and feedback given to us throughout the entire thesis work. Your commitment has helped us to overcome many obstacles along the road. We would also like to thank the employees at the case company’s Chinese unit for their help and effort to make our time in China unforgettable, and SIDA for supporting us with a scholarship and preparing us for our stay in China. Finally we would like to thank all respondents and participants for their commitment and participation throughout the thesis work.

Luleå, 2016-06-20

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1. INTRODUCTION

1.1 Background

The past decades accelerated technological development and increased globalization of markets have resulted in intensified competition and more advanced needs from the markets, thus also an increased establishment of subsidiaries in emerging\(^1\) markets. (Hemminger, Doblinger, Dowling, 2015). Whilst the global economy has shifted from being product-oriented towards a more service-oriented economy manufacturing companies have started to realize the importance of combining products and services into product-service systems (PSS) to keep up with the competition, even in emerging markets (Paton & McLaughlin, 2008).

Many MNCs that operate in emerging markets face the challenge of engaging in complex, unfamiliar business environments where influences from governmental institutions and cultural differences are affecting MNCs’ operations (Wang, Tong & Koh, 2004). These challenges are especially critical for MNCs that establish market operations in China, which is one of the largest economies and therefore one of the most important emerging markets (Ma, Yu, Gao, Zhou & Yang, 2015). Many social aspects are still developing, and the medical technology industry is therefore rather new. In order to contribute to sustainability, companies should not only focus on economical and environmental aspects but also on new ways of satisfying the social demand of wellbeing, which could be provided through different solutions rather than just the stand-alone products (Ceschin, 2013).

Sustainable product-service systems (sustainable PSS) and its sustainable business practise contribute to social well-being and economic prosperity in emerging markets while having positive influence on the environmental sustainability (Vezzoli, Ceschin, Diehl

\(^1\) The term emerging market is loosely defined. Markets are considered emerging because of their developments and reforms (Sako, 2015).

\(^2\) Sustainable PSS innovation is creation of new product-service combinations and successful
Sustainable PSS innovation enables firms to adapt to unfamiliar market environments as it increases the customer-focus (Li, Lin, Chen & Ma, 2015). Managing sustainable PSS innovation thereby facilitates the ability to meet the specific needs of emerging markets and results in increased long-term wealth of the MNC (Barquet, De Oliveira, Amigo, Cunha, & Rozenfeld, 2013).

Finding, integrating and generating valuable information from the host markets is important to succeed with sustainable PSS innovation (Bartlett & Ghoshal, 1989). The regional sales units’ various abilities and knowledge about their host markets enables them to provide the MNC headquarter (HQ) with information that is used in the sustainable PSS innovation process, but also to respond and adapt to trends and changes on the market (Rubera, Ordanini & Calantone, 2012). This is called market-linking capability, and enables companies to provide specific customer value through coordination and utilization of its abilities for sustainable PSS innovation. These capabilities are dynamic, meaning that they are continuously developing and contribute to the development of other capabilities (Helfat & Peetraf, 2003). Strong market-linking capabilities enable companies to quickly adapt in dynamic, complex markets, hence increase competitive advantage and sustainability in the market (Day, 1994; Chen, Wang, Huang & Shen, 2016).

1.2 Problem discussion

Emerging markets’ introductions of new reforms and developments implies that companies that only used its presence for manufacturing now realize that competitiveness lies in the ability to provide PSS to the market (Zhang, Zhao, Voss, & Zhu, 2016; Wang, Yeung & Zhang, 2011). China’s and other emerging markets’ sophistication are increasing which also enables a strong potential for sustainable PSS innovation. However, navigating the complex cultural, political and legal landscape in

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2 Sustainable PSS innovation is creation of new product-service combinations and successful sustainable commercialization of these (Parida, Rönberg Sjödin, Lenka & Wincent, 2015).
emerging markets is particularly difficult within the medical technology industry (Zhang et al., 2016), especially for foreign providers. Challenges related to for example finding potential customers are important to overcome since innovations in this industry often are reliant on customization for the individual customer. Accordingly, a key challenge for companies in the medical technology industry is to understand how to build their market-linking capabilities to better overcome the challenges regarding ensuring a high level of confidence in the source, getting close to stakeholders and managing cultural differences in the MNC when selling to emerging markets.

Prior researchers have mainly focused on the economical and environmental aspects of sustainability, which implies that the social dimension of sustainable PSS is lacking (Boons, Montalvo, Quist & Wagner, 2013; Ceschin, 2013). Researchers have also focused on aspects in the context of capabilities such as how service innovation is linked to market capabilities and how market orientation enhances performance (Chen et al., 2016; Wang, Dou, Zhu & Zhou, 2015). Nevertheless, there is a need to open the black box of how market-linking capabilities for sustainable PSS innovation are built and managed over time in different contexts (Wang et al, 2015). To our knowledge, little research has focused on how sales units in emerging markets can build market-linking capabilities to support MNCs’ sustainable PSS innovation processes. Providing this type of framework would result in new insights regarding how to manage sustainable PSS innovation in emerging markets, not only from an economic and environmental perspective but also from a social perspective, by the development of regional market-linking capabilities, thereby extending current capability literature.

Indeed, Michailova & Zhan (2015) argue that more research that handle market-linking capabilities in the context of focal subsidiary (internal unit level), the MNC itself (between units on organizational level) and the environment (external macro level) simultaneously, in a more holistic view is needed. Researchers also highlight the importance of finding a structured, stage-wise model that enables the development of capabilities (Parida et al., 2015; Davies, Brady & Hobday, 2006; Helfat & Peteraf, 2003). The existing literature has an important gap to fill, since it does not cover which market-linking capabilities that are important to possess in order to coordinate and
make use of assets within the regional sales unit, to interact and collaborate with external stakeholders, and to provide the MNC HQ with market information, but also how to build these market-linking capabilities.

1.3 Research purpose

The purpose of this research is to increase the understanding of how market-linking capabilities can be developed to facilitate sustainable PSS innovation for MNC providers of medical technology in emerging markets. More specifically this research aims to investigate which abilities that are vital for regional sales units located in emerging markets, and how to build these capabilities to ensure successful sustainable PSS innovation that fulfils these markets needs and contributes to economic, environmental and social sustainability. This research also increase the understanding about what role the sales unit play in sustainable PSS innovation, when the MNC HQ is located in a Western country. This results in a framework that visualizes the essential market-linking capabilities, but also a stage model for how to build these. In order to fulfil the purpose of this research the following research questions are further analysed:

**RQ1:** Which market-linking capabilities are important for MNC providers of medical technology to facilitate successful sustainable PSS innovation for emerging markets?

**RQ2:** How can MNC providers of medical technology develop market-linking capabilities to facilitate successful sustainable PSS innovation for emerging markets?
2. LITERATURE REVIEW

Literature in the areas of sustainable PSS innovation, Dynamic capabilities and Market-linking capabilities has been studied in order to get an overview of current findings regarding capabilities and the building of these. An overview of research related to the dynamic market-linking capability literature is visualized in table 1.

2.1 Challenges with sustainable PSS innovation for MNCs in emerging markets

Traditionally, emerging markets such as China is known for low-cost manufacturing and competitiveness through cheap labour, which has been a major reason for several MNCs’ establishment in this country. This era is going towards an end, as global and local customers’ demands are advancing (Zhang et al., 2016; Zhang, Ye, Chen & Wang, 2011). Combining products and services enable companies to better match customers’ actual needs and thereby provide more value than the stand-alone products. The demand for products with smaller environmental footprint is also increasing in emerging markets (Schmidheiny, 1993; Biswas & Roy, 2015). Combining products with services such as support and maintenance means that the products can last longer and decrease the consumption rate and thereby also the environmental impact.

There are various aspects that make emerging markets unique and complex for Western MNCs. Understanding the uniqueness of doing business in these markets is important to facilitate market orientation and sustainable PSS innovation (Wang & Chung, 2013). Governmental and social influences are strong in China, and it is therefore important to build strong interpersonal connections, also called Guanxi. These connections refer to the exchange of personal resources, where the parties create dependence to each other and are obligated to fulfil certain expectations. Benefits gained from this are in some cases fewer bureaucratic delays and insider information (Child & Tse, 2001; Seung & Yadong, 2001). However, strong political influence might also hinder customer orientation because of the inflexibility governmental constraints and control bring. Moreover, close ties with governmental officials can reduce the institutional barriers and facilitate management related to changing laws (Song, Nason & Benedetto, 2008;
Wang & Chung, 2013). Sales units in emerging markets therefore need certain capabilities to meet the challenges on the market.

Researchers have proven that internal factors influence the development of MNCs’ market-linking capabilities in emerging markets. Companies in emerging markets such as China have historically prioritized quantity and technological knowledge over management knowledge, which has resulted in corporate cultures with strict hierarchical structures. Chinese values are thereby still characterized by a willingness to reach measurable results. There are also certain attitudinal differences compared to Western companies regarding the employees’ unwillingness to show shortcomings, share information and communicate with each other (Dong & Glaister, 2009). This affect the internal cooperation and Chinese employees might feel embarrassed to ask questions or provide feedback to their managers (Wang, et al., 2004). Providing employees with freedom to take own incentives influence networking and relationship building poetically, which in turn facilitates sustainable PSS innovation (Zhang et al., 2016).

2.2 The role of market-linking capabilities

Companies that manage successful sustainable PSS innovation increase customer value, as well as their strategic flexibility, which results in higher competitiveness in the new environment (Barquet et al., 2013; Zhang et al., 2016; Zhang & Chen, 2008). However, sustainable PSS innovation does not come without risks, and there is no guarantee that companies automatically will generate more value by providing sustainable PSS (Kowalkowski, Windahl, Kindström & Gebauer, 2015). Commercialization of sustainable PSS towards emerging markets is very complex, and when not successfully managed companies can instead end up on a costly and risk taking path (Stanley & Wojcik, 2005; Neely, 2008; Parida et al, 2015; Neu & Brown, 2008). Indeed, the sustainable PSS innovation process is also related to several challenges in a global context. According to Parida et al (2015) a key challenge for MNCs is to manage the diverse needs of the different market segments due to the various market conditions such as laws and delivery requirements. It is therefore vital
that the MNC HQ understand that the commercialization and/or the sustainable PSS itself should be adapted to the specific market context to reach commercial success.

The importance of collaboration between the regional sales unit and the MNC HQ in innovation projects is recognized both in the literature and by empirical studies (Ernst, Hoyer, Rubsaamen, 2010; Stock & Reiferscheid, 2014). Cross-functional collaboration between these units can be seen as a key success factor for sustainable PSS innovation, especially in the early stages (Brown & Eisenhardt, 1995). Benefits gained from this are shorter development processes, cost reductions, contributions to the overall company goals, higher quality, faster time to market and commercial success (Rubera et al., 2012). The regional sales unit is responsible for providing reliable and accurate information for the entire innovation process (Ernst et al., 2010). This means that the regional sales unit should have the primary responsibility to collect and provide the MNC HQ with information about market needs and preferences (Hauksdóttir, Mortensen & Nielsen, 2013).

Market-linking capabilities is described as the ability to interpret market information, detect and anticipate market trends, and respond to complex markets’ needs. Furthermore, market-linking capabilities is the extent to which companies create and retain relationships with suppliers, customers and other channel members (Song et al., 2008; Tseng & Lee, 2010; Day, 1994). Research has shown that companies gain competitiveness not because they possess better resources, but because their capabilities enable them to use its resources better (Teece, 2007; Kindström, Kowalkowski & Sandberg, 2013; Helfat & Petræf, 2003). Capabilities that support strong relationships between HQs, regional units and external stakeholders such as customers and service partners have been highlighted as key factors for successful global sustainable PSS innovation (Parida et al., 2015).

Market-linking capabilities enable companies to identify and predict market needs, find market information and react on changing market conditions (Zhang & Chen, 2008; Song et al., 2008; Chen et al., 2016). It can also be used to seek, absorb and scan external market trends to find new opportunities on existing markets. The use of
market-linking capabilities therefore results in superior market knowledge as it connects internal competencies to the external environment, which is especially important when operating in an unfamiliar environment (Day, 1994; Tseng & Lee, 2010; Chen et al., 2016).

2.3 The dynamic nature of market-linking capabilities in MNCs

The way of viewing companies’ assets, as well as the utilization and management of these has evolved over time and the literature now recognizes the need for capabilities to evolve in line with a dynamic environment (Teece, 2007). This implies that the building and reconfiguration of capabilities also plays an important role for MNCs competitiveness in complex, changing market environments. How to build capabilities vary depending on both company characteristics and market contexts. This involves various activities that often depend on each other (Parida et al., 2015; Davies et al., 2006; Helfat & Peteraf, 2003). An overview of current research within the dynamic capability view, also for MNCs and sustainable PSS is compiled in table 1.

The dynamic capability view has its starting-point in the resource-based view, which states that companies possess different resources that are tangible and intangible assets. These are used to develop products and gain competitiveness (Wernerfelt, 1984). However, this view does not consider management of recourses over time (Teece, 2007; Helfat & Peteraf, 2003). Helfat & Peteraf (2003) further develop this view by stating that competitiveness do not stem from possessing resources, but instead from the ability to organize these in changing market environments.

Repetitively performed activities that aim to coordinate and utilize resources are called capabilities. These are influenced by both internal and external environments and thereby continuously change and are dynamic (Teece, 2007). Teece (2007) identified three different dynamic capabilities: sensing opportunities and threats, seizing the opportunities, and maintaining competitiveness by reconfiguring resources.
<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Title</th>
<th>Main findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>1994</td>
<td>The capabilities of market-driven organizations.</td>
<td>Market-sensing and customer-linking capabilities make companies superior to respond to changing environments.</td>
</tr>
<tr>
<td>Teece</td>
<td>2007</td>
<td>Explicating dynamic capabilities: The nature and micro foundations of sustainable enterprise performance.</td>
<td>Capabilities can be divided into the capacity to sense opportunities, seize opportunities and reconfiguration.</td>
</tr>
<tr>
<td>Song, Nason &amp; Benedetto</td>
<td>2008</td>
<td>Distinctive marketing and information technology capabilities and strategic types: A cross-national investigation.</td>
<td>Customer orientation facilitate capability building in international joint ventures in emerging markets when foreign operational control is low or social control is high.</td>
</tr>
<tr>
<td>Tseng &amp; Lee</td>
<td>2010</td>
<td>Host environmental uncertainty and equity-based entry mode dilemma: The role of market-linking capability</td>
<td>Market-linking capabilities play a crucial role in market entry, as it help companies in emerging economies to overcome challenges related to market turbulence and environmental uncertainties.</td>
</tr>
<tr>
<td>Boons, Montalvo, Quist &amp; Wagner</td>
<td>2013</td>
<td>Sustainable innovation, business models and economic performance: an overview.</td>
<td>Explored the relationships of sustainable innovation, sustainable business models, strategy and competitiveness.</td>
</tr>
<tr>
<td>Ceschin</td>
<td>2013</td>
<td>Critical factors for implementing and diffusing sustainable product-Service systems: insights from innovation studies and companies' experiences.</td>
<td>Findings about which factors that influence the implementation and diffusion of eco-efficient PSS innovations.</td>
</tr>
<tr>
<td>Kindström, Kowalkowski &amp; Sandberg</td>
<td>2013</td>
<td>Enabling service innovation: A dynamic capabilities approach.</td>
<td>Dynamic capabilities are crucial in order to succeed with service innovation.</td>
</tr>
<tr>
<td>Parida, Wincent and Kohtamäki</td>
<td>2013</td>
<td>Offshoring and improvisational learning: Empirical insights into developing global R&amp;D capabilities</td>
<td>Combining improvisational learning and routines can develop capabilities in the context of R&amp;D offshoring.</td>
</tr>
<tr>
<td>Wang, Dou, Zhu &amp; Zhou</td>
<td>2015</td>
<td>The effects of firm capabilities to create collaborative relationships that facilitate market performance: The moderating role of market turbulence</td>
<td>Dynamic capabilities enable companies to create collaborative relationships that facilitate market performance.</td>
</tr>
<tr>
<td>Michailova &amp; Zhuan,</td>
<td>2015</td>
<td>Dynamic capabilities and innovation in MNC subsidiaries</td>
<td>Dynamic capabilities, subsidiary motivation and support from HQ are key factors that facilitate subsidiary innovation. The subsidiary should possess an entrepreneurial culture, ability to source, integrate and leverage both internal and external knowledge.</td>
</tr>
<tr>
<td>Parida, Rönnberg Sjödin, Lenka &amp; Wincent</td>
<td>2015</td>
<td>Developing global service innovation capabilities: How global manufacturers address the challenges of market heterogeneity</td>
<td>Developing capabilities that support increased relationship intensity, interaction among HQs and regional units, customers and service partners facilitate global service innovation.</td>
</tr>
</tbody>
</table>
Sensing opportunities includes activities linked to scanning, creation, interpreting and learning (Teece, 2007). This is the collection of market information with the aim to understand opportunities on global and regional markets, and detect new market opportunities (Kindström et al., 2013; Teece, 2007). The detection can be performed in two different ways; either by being entrepreneurial or by retraining new knowledge (Teece, 2007). An important aspect is therefore to ensure stakeholders’ direct participation in sustainable PSS innovation as this provides specialized knowledge about the market needs (Zhang & Chen, 2008; Zhang et al., 2016; Neu & Brown, 2008). However, some stakeholders might not be willing to share such information (Day, Deighton, Narayandas, Gummesson, Hunt, Prahalad & Shugan, 2004). Performing activities that promotes internal cross-functional understanding and collaboration also facilitates the development of capabilities through learning across the organization (Parida et al, 2015; Davies et al, 2006). Furthermore, this enables companies to reduce challenges related to the development of capabilities (Zhang & Chen, 2008; Zhang et al., 2016; Neu & Brown, 2008).

Seizing opportunities refers to the capturing of opportunities through the innovation of products, processes or services. These activities develop and maintain assets and competences. It is important to take initiatives that are based on the market intelligence and thereby to have a commercialization strategy that facilitates the prioritization of these activities related to the market needs (Kindström et al., 2013; Teece, 2007).

Reconfiguration means that the company must be able to restructure their assets since market needs change over time. Reconfiguration activities enable flexibility towards these changes as they allow companies to focus on exploitation of current assets and competences (Kindström et al., 2013). One important aspect of reconfiguration is to focus on activities that help the company to get closer to the market (Teece, 2007).
2.4 Building capabilities

Current literature does not specifically explain how market-linking capabilities can be built in emerging markets. However, researchers have highlighted the importance of finding a structured, stage-wise model that enables the building of various capabilities (Parida et al., 2015; Davies et al., 2006; Helfat & Peteraf, 2003). Parida et al (2015) also highlighted the importance of building capabilities that facilitates integration of external stakeholders and internal collaboration, due to heterogeneity between different markets. Successful building of market-linking capabilities is thus crucial for MNCs that operates in emerging markets. As visualized in Figure 1, dynamic capabilities changing pattern is described by Helfat & Peteraf (2003) as a lifecycle that consist of three stages: Founding stage, Development stage and Maturity stage. These stages are based upon different activities, which enable building of these capabilities.

![Figure 1: Capability lifecycle](image)

**Figure 1: Capability lifecycle**

**Founding**

The lifecycle begins with the founding stage, which includes organizing a team of individual employees with various knowledge, skills and experiences but also network of internal and external stakeholders. This team should have a central objective, which should promote the creation of a new capability. It is vital to get access to additional inputs and resources from outside since this will provide complementary key skills and learning (Helfat & Peteraf, 2003).
Development

In the development stage, the team should find alternatives for further development of their capability. The development varies depending on the team’s prior experience, ability to coordinate tasks, available resources and initial path chosen but also on how successful the choices of alternatives are (Helfat & Petraf, 2003). Even tough finding a structured process for building capabilities is important, it is equally important that foreign subsidiary units are allowed to improvise and engage in unplanned “learning by doing” activities as this facilitate capability development in unfamiliar environments (Helfat & Petraf, 2003; Parida, Wincent & Kohtamäki, 2013).

Maturity

Entering the maturity stage means maintaining the capability by performing activities related to the capability repeatedly. The capability thereby becomes deeply embedded in the memory structure of the team and the organisation. This stage of the lifecycle curve vary, but often form a straight line due to the continuous level of performed activities during the maintenance, see figure 1. However, it is possible for capabilities to take new directions due to changing and complex environments where external factors strongly impact the building of capabilities. This implies that the capability can be renewed, continue to develop, be replicated or retire depending on external and internal forces. (Helfat & Petraf, 2003).

The formation of the capability lifecycle curves differs depending on the company and the market where it operates, since this influences which activities that needs to be performed, when to perform these and to what extent, see figure 1 (Helfat & Petraf, 2003). This implies that there are several challenges related to finding a structured process for building capabilities (Parida et al., 2013; Helfat & Peteraf, 2003). It is important that companies have a clear understanding about their key competences and what they do well in order to understand which capabilities to further develop, which should go in to maturity and which should be retired. They should also decide which capabilities to develop internally and when partners are needed to fill gaps (Davies et al., 2006).
3 METHOD

This section presents the approach that this research has taken, which case that has been studied but also how the data was collected and analysed to ensure the trustworthiness of the research.

3.1 Research approach

This research intended to increase the understanding regarding which market-linking capabilities that are crucial to possess at Chinese sales units in order to collect and deliver market information that the MNC HQ use as a basis for decisions regarding sustainable PSS innovation, but also how to build these capabilities. Knowledge in this area is nascent, which necessitate an explorative approach based upon peoples’ opinions and thoughts, which motivates a qualitative research (Day, 1998; Edmondson & McManus, 2007).

Since current literature did not address the area of issue this research developed a framework constructed by collected and analysed data. This necessitated a deep understanding about the context (Eisenhardt, 1989). This research has therefore been conducted as an inductive case study at one company, where data from four different units within the company were collected and analysed (Yin, 2003; Saunders, Lewis & Thornhill, 2009; Braun & Clarke, 2006). A case study enables collection of more in-depth data and provides richness within the specific context, which was a necessity in this research due to the lack of knowledge in current literature and the immaturity of the medical technology industry in emerging markets (Eisenhardt, 1989). This implies that the research cannot be generalized to a large population but instead to individual experiences in the industry (Dierckx de Casterlé, Gastmans, Bryon & Denier, 2012).

3.2 Case selection

A case study of a MNC sustainable PSS provider in the medical technology industry and their Chinese sales unit was conducted. The products are combined with services into sustainable PSS that are commercialised in multiple markets around the world. These typically consist of products and services such as customer support, service agreements, software solutions and analysis of customer data. By combining such
products and services the case company are able to lower the life cycle costs (total cost of ownership) as well as decrease the environmental footprint by optimizing maintenance and use. More importantly, their offerings impact the social development as it helps to grow and increase the awareness of the medical technology industry and the social needs of patients.

The HQ of the MNC is located in a Western country, but the company also operate at additional hubs internationally, including China. The MNC’s HQ manages the innovation projects, and the foreign units provide support by reporting their regional market’s requirements. This implies that the interaction between the foreign units and the HQ is vital, and the foreign unit’s market-linking capabilities are thus important in order to provide sustainable PSS that fulfils each market’s needs and are developed as global products.

The company was selected due to the company structure and the multiple challenges they face when establishing a sales unit in China. The Chinese unit performs activities such as trade and supportive R&D along with the on-going work to start selling products in a larger scale at the Chinese market. This MNC is unique in many markets because of its customized offerings and high-end prices. China is therefore a very complex market to enter, as there is currently no system that facilitates the payment for this type of sustainable PSS. The MNC’s situation thus makes it an interesting case company for this research since successfully managed innovation of their sustainable PSS would further contribute to the social sustainability in China.

3.3 Data collection

This research mainly investigated the Chinese sales unit but the HQ and other sales units have also been investigated because of their relevance for the fulfilment of the research purpose. The sample of information was identified through mixed purposeful sampling consisting of both stratified and snowball sampling. Particularly informative contributors were carefully selected and recommended in order to ensure gathering of relevant, detailed data (Saunders et al., 2009; Onwuegbuzie & Leech, 2007).
The data were collected on site during an almost three months site visit at the Chinese sales unit through interviews and observations because the usage of these methods was beneficial to come close to the respondents. These are also some of the most common ways to collect qualitative data (Onwuegbuzie & Leech, 2007). In total, the data collection resulted in 76 days of observation and 21 interviews ranging from 15 to 70 minutes. The respondents participated in one or more in-depth interviews depending on their ability to provide relevant information for the study. Respondents with various titles and knowledge in R&D, product management, marketing or sales at the case company were interviewed, see table 2. The respondents all had experience of the sustainable PSS innovation process and/or connection to the external actors in China. Interviews with respondents from other countries than China were Skype or telephone interviews while interviews at the Chinese sales unit were held face-to-face. All interviews were recorded and transcribed. The interviews were conducted in two waves, which resulted in deeper knowledge for each wave. Observations were performed continuously during the whole stay in China in order to understand the current situation. Notes were taken after each observation.

*Wave 1: General understanding*

The first wave of interviews had an explorative character and aimed to provide the researchers with a basic understanding of the situation and the current way of working (Leech & Onwuegbuzie, 2008). These interviews were more unstructured and enabled the respondents to speak freely about the topic, thus facilitating discussion (Saunders et al., 2009). Main areas for the interviews in this phase were initially identified from the literature. This enabled a broader understanding of the subjects of interest, which also was the purpose of this wave. A question asked in the first wave could be formulated as: “What are the regional product managers responsible for?” In this wave eight interviews were conducted in total, both with the HQ and the Chinese sales unit.

*Wave 2: In-depth understanding*

Semi-structured interviews were conducted in the second wave. These consisted of pre-determined questions and themes related to the fulfilment of the RQs (Ghauri & Grønhaug 2005). The second-wave interviews were a continuation of the first-wave
interviews. These aimed to provide a deeper understanding of the working process at both the Chinese and other sales units but also to fill gaps from the collected data. The second wave thereby ensured that all data needed in order to answer the RQs had been collected successfully. A question asked in this wave was for example: “Which activities do you perform to understand the needs in your business region?”. In this wave, ten interviews were conducted with the regional sales units in China, Europe and the US. Some of the respondents participated in both the first and second wave of the interviews, depending on their knowledge about the topic.

Table 2: Information about interviews and respondents in this research

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Date</th>
<th>Position</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1: Exploratory interviews</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>2016-01-06</td>
<td>Vice President Global Product Management</td>
<td>30min</td>
</tr>
<tr>
<td>R1</td>
<td>2016-02-16</td>
<td>Vice President Global Product Management</td>
<td>25min</td>
</tr>
<tr>
<td>R2</td>
<td>2016-02-16</td>
<td>Global Product Manager</td>
<td>45min</td>
</tr>
<tr>
<td>R3</td>
<td>2016-02-23</td>
<td>Production Manager</td>
<td>60min</td>
</tr>
<tr>
<td>R4</td>
<td>2016-02-25</td>
<td>Regional Vice President</td>
<td>60min</td>
</tr>
<tr>
<td>R5</td>
<td>2016-03-01</td>
<td>R&amp;D Manager</td>
<td>70min</td>
</tr>
<tr>
<td>R6</td>
<td>2016-03-03</td>
<td>Director Global Assortment</td>
<td>35min</td>
</tr>
<tr>
<td>R1</td>
<td>2016-03-04</td>
<td>Vice President Global Product Management</td>
<td>30min</td>
</tr>
<tr>
<td>R7</td>
<td>2016-03-08</td>
<td>Regional Vice President</td>
<td>50min</td>
</tr>
<tr>
<td>R2</td>
<td>2016-03-14</td>
<td>Global Product Manager</td>
<td>50min</td>
</tr>
<tr>
<td>Wave 2: Semi-structured interviews</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R3</td>
<td>2016-03-20</td>
<td>Production Manager</td>
<td>30min</td>
</tr>
<tr>
<td>R8</td>
<td>2016-03-25</td>
<td>Regional Product Manager</td>
<td>50min</td>
</tr>
<tr>
<td>R9</td>
<td>2016-04-01</td>
<td>Regional Vice President</td>
<td>35min</td>
</tr>
<tr>
<td>R10</td>
<td>2016-04-06</td>
<td>Marketing Specialist</td>
<td>40min</td>
</tr>
<tr>
<td>R11</td>
<td>2016-04-06</td>
<td>Marketing Specialist</td>
<td>35min</td>
</tr>
<tr>
<td>R12</td>
<td>2016-04-07</td>
<td>Marketing Specialist</td>
<td>35min</td>
</tr>
<tr>
<td>R13</td>
<td>2016-04-08</td>
<td>Regional Product Manager</td>
<td>65min</td>
</tr>
<tr>
<td>R10</td>
<td>2016-04-09</td>
<td>Marketing Specialist</td>
<td>45min</td>
</tr>
<tr>
<td>R14</td>
<td>2016-04-12</td>
<td>Finance Director</td>
<td>60min</td>
</tr>
<tr>
<td>R15</td>
<td>2016-04-28</td>
<td>Product Specialist Sales</td>
<td>35min</td>
</tr>
<tr>
<td>R1</td>
<td>2016-05-23</td>
<td>Regional Vice President</td>
<td>20min</td>
</tr>
<tr>
<td>R14</td>
<td>2016-05-26</td>
<td>Finance Director</td>
<td>15min</td>
</tr>
</tbody>
</table>
3.3 Analysis method

This research studied one company. Data from the interviews were collected and analysed continuously, which means that constant comparison analysis was performed. The research seeks to form a framework of the key market-linking capabilities that facilitate the sustainable PSS innovation process, but also a model for building these. The analysis was therefore made across the entire data set. A deep understanding about the area of interest was necessary in order to ensure a high quality of the result. A thematic analysis method was therefore used as it offers an accessible and theoretically flexible approach to analysing qualitative data and allows organisation and description of complex data in a rich and detailed way. The analysis method was performed in the six phases presented below. It enabled the researchers to identify, create and understand relationships between the data through continued within-case analysis (Leech & Onwuegbuzie, 2008; Eisenhardt, 1989). The phases 2–6 were performed jointly and iteratively, which facilitated different ways of thinking and making use of the data (Hunter, Lucardi, Zucker, Jacelon, Chandler, 2002). It was important to continuously go back to the original items in order to ensure an iterative process. Thereby, the researchers were able to make sure that the RQs were answered and that no important details were overseen (Dierckx de Casterle et al., 2012). The analysed data were compared to the literature in order to detect gaps and unexplainable findings. If a gap was detected, complementing confirmation interviews were held in order to fulfil these gaps (Bradley, Curry & Devers, 2007).

Phase 1: Familiarizing with the data

In this phase the researchers familiarized with the data to provide general understanding and a holistic overview. The data was transcribed by one of the researchers and carefully read and checked back against the recording by the other researcher. This provided a thorough understanding of the data and ensured an accurate transcription. Each of the researchers highlighted the most important aspects of each interview in relation to the RQs. These were then discussed to find patterns and formulate initial ideas about interesting data (Braun & Clarke, 2006; Dierckx de Casterle et al., 2012).
Phase 2: Initial coding

Codes included interesting information from the collected data, which seemed meaningful for the fulfilment of the research purpose. Each item was treated equally and interesting extracts were highlighted. In this way all data extracts were allocated a code. Some of the surrounding data were kept and the data were coded for as many potential themes and patterns as possible. This was due to the difficulties of deciding which data that would be relevant for the result, but also to make sure that the context was not lost (Braun & Clarke, 2006). An example of the coding is visualised in table 3.

Table 3: Example of coding from data extract

<table>
<thead>
<tr>
<th>Data extract</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>“We should improve our market in like WeChat or other forums from internet…you can post a lot of information.”</td>
<td>Provide and share information through digital media platforms</td>
</tr>
</tbody>
</table>

Phase 3: Searching for themes

The codes were sorted into themes and thereby all data extracts were collated into these themes. One theme was for example “Build sustainable PSS delivery procedures”. Different relationships between the themes and codes were then discussed. In this way the themes were mapped and broken down into different levels. No theme or code was excluded. The themes that did not fit into the identified themes were placed in a “temporary-theme” category (Braun & Clarke, 2006).

Phase 4: Reviewing themes

The themes created in phase 3 were refined. Some themes were excluded whereas others where merged or separated and formed new themes. Each data extract was reviewed within each theme to investigate whether there was a pattern or not. If problems were identified, themes or extracts were removed or changed. The same procedure reoccurred for each level. Finally the themes were analysed to investigate whether these represented the entire data set. The entire data were re-read to include important extracts that were missed earlier stages and ensure that the themes worked in relation to the entire data (Braun & Clarke, 2006). This contributed to the constitution of an iterative process, which ensured richness of the analysed information and resulted in an in-depth analysis (Dierckx de Casterle et al., 2012; Bradley et al., 2007).
Phase 5: Defining and naming themes

Each theme were carefully described and further refined in relation to the RQs. A detailed analysis of each theme’s meaning and relation to each other were conducted, but also how they fit into the overall picture. The themes were confirmed by additional interviews, where new interview guides were formed from the identified themes. Each theme was also given a name for the final analysis (Braun & Clarke, 2006). Phase 5 finally generated six themes, which was further divided into three categories. These categories formed the capabilities such as for example “Coordinate regional unit and streamline delivery procedures”. The analysis method with the creation of codes and themes is visualised in Figure 2 below.

Phase 6: Final analysis and producing report

The report was written in the final phase and the data was described in order to answer the RQs and fulfil the purpose. This provided evidence for the result, and the validity of the analysis was proven. Quotes and examples that represented the data in meaningful ways were chosen to clarify important information (Braun & Clarke, 2006).

Figure 2: Analysis method
3.4 Quality improvement measures

Continuous discussions between the researchers provided a common understanding about the area of issue. The interviews and observations were conducted in parallel to ensure a reliable result. Snowball sampling enabled access to senior key employees who had experience in the area of issue. This could potentially have an influence on the sample, since the employees might interact and affect each other. However, asking the respondents to motivate why and how the recommended employees could contribute to the research result decreased the risk of a biased sample. Most respondents also had experience from multiple markets and responsibilities, thus provided an overall picture, but also some differences between the markets. Information from the interviews was confirmed by asking the respondents similar questions to validate the answers.

Observations of the daily work complemented the interviews. This has been an extra important aspect for this research, since the Chinese business culture values trust and relationships. This resulted in an increased reliability of the answers to the questions, and a better cooperation with the respondents. The researchers participated in different activities outside, and at work to get a deep understanding of the context. This allowed the researchers to familiarize with the culture and understand the phenomena of interest from the participants’ eyes, which is a strength regarding the result of this research. Understanding the context was important for the internal credibility as the Chinese market is complex and provides many challenges.
4 FINDINGS

In this section, the findings of this research are presented. The first part answers RQ 1 by presenting a framework for the identified market-linking capabilities, whereas the second part answers RQ 2 by presenting a three-stage model for how to build these capabilities.

4.1 Understanding the building blocks of market-linking capabilities

By analysing the observations and interviews held with employees at the Chinese region and other regions but also decision makers at the MNC’s HQ, it was possible to create a framework. This was achieved by identifying the second-order themes that jointly form the first order codes, see figure 3. Furthermore, these first order codes are the routines that build and maintain each capability. Based on the data analysis, it was possible to identify three important market-linking capabilities; Mutual understanding between the market and the region, Basis for interaction between the region and its internal and external stakeholders and Coordinate regional unit and streamline delivery procedures. It was clear that the capabilities found as critical for managing sustainable PSS innovation include the regional unit’s key functions and responsibilities. Firstly, they should create awareness in the market but also understand the market needs and thereby create mutual understanding. Secondly, they should create capabilities that facilitate the interaction with internal and external stakeholders. Finally, they should coordinate the internal work within the region to succeed with the delivery of sustainable PSS to the market. The capabilities are presented in figure 3 and cover the abilities needed to coordinate resources and work externally towards the market and internally within the region, but also toward the MNC HQ in order to succeed with sustainable PSS innovation in the medical technology industry in emerging markets. This will help increase competitiveness, thus enhance a bigger market share and the potential of increased economic profit. Due to the services included in the sustainable PSS such as maintenance, products last longer which implies that the environmental impact is decreased. Finally, successful commercialization of sustainable PSS within the medical technology industry provides customers with social value, which therefore increase the social dimension of sustainability.
Figure 3: Framework of market-linking capabilities at Chinese sales units
4.1.1 Mutual understanding between the market and the region

The analysis showed that a key dimension for successful sustainable PSS innovation in China is to establish mutual understanding between the market and the region. Table 4 in Appendix I provides a brief summary of some important statements from respondents that led to this conclusion. Understanding the market is important to make the right decisions throughout the MNC’s sustainable PSS innovation process. However, due to the immaturity of the medical technology industry it is equally important to create awareness within the region to ensure that the market understands the need of the sustainable PSS solutions, the company and the industry itself. Creating mutual understanding in China was shown to be especially challenging because of the immaturity and complexity of the market, which made for example information gathering and sharing more difficult.

Build regional market understanding

Several of the respondents had experience from other markets and stated that the need for sustainable PSS solutions in emerging markets to some extent is different from Western countries. It was therefore stated that both the usage of the solutions and the context it is used within should be expected to differ because of the society’s level of development, thus also the environment where the solutions are used. Similar to Wang & Chung (2013), this research thereby found that MNCs striving to succeed with sustainable PSS innovation in emerging markets like China needs to focus on building a comprehensive understanding of the regional market. However, this is a major challenge for the MNCs’ regional units because of the Chinese market’s complexity and uniqueness, but it is at the same time a necessity to develop sustainable PSS innovations that are suitable for the market characteristics. One of the respondents made this clear by stating that

"I have been working in many of our different markets, and this is very different… there are a lot of regulations and stuff like that to consider… we really have so much to learn. For example how the purchasing process looks like".
In accordance with Child & Tse (2001), this research also found that the government in China has great influence over MNCs’ operations, especially when it comes to complex regulations and laws. Being knowledgeable of, and continuously updated regarding these issues is important to enable market operations, especially since the solutions should be adapted to the market. Regional market understanding is also important in order to find new commercialization strategies, keeping up with competition and establishing important partnerships and relationships. Understanding the market context is therefore vital to develop sustainable PSS solutions that fit the target group and to commercialize the solutions in a way that is suitable for the financial market structure. To facilitate this, the analysis showed that the regional unit could find information by collecting and sharing experience internally, meaning that the employees should utilize each other’s various knowledge and experiences of the market to learn more effectively and avoid wasting more resources than necessary, but also to avoid mistakes related to for example culture or commercialization strategies. The regional sales unit should also learn from external stakeholders and learn from experienced organizations to build regional market understanding. This means that the regional unit should engage in getting close to external stakeholders such as customers and distributors, and organizations such as international chambers of commerce in order to find reliable input to sustainable PSS innovation but also to gain knowledge or ideas from other companies’ previous success factors on the Chinese market. Understanding the market and the actual need for the MNC’s sustainable PSS solutions are a major part of the regions work and thereby an important routine to build.

Build external awareness about the industry, products and company in the region

Many respondents expressed that the market for certain medical technology products is immature in emerging markets such as China, which therefore result in a need for the regional sales unit to build external awareness on the market. Furthermore, the unit continuously worked with the awareness via different channels, mainly by providing and sharing information through digital media platforms and different market activities. Digital media platforms, such as certain mobile applications are very popular in China and information is therefore transferred quickly in this channel. Digital media platforms are
thereby an important channel for companies that want to reach out to people in the Chinese society. Market activities such as expos and other events give companies the opportunity to meet stakeholders and get in contact with the right people, especially within the target group. This is especially important within the medical technology industry where there are difficulties of finding and contacting certain stakeholders. It is vital to understand the society’s impact on this matter and therefore create a reliable brand image in order to ensure profitable sustainable PSS innovation on the Chinese market. A reliable brand image is found to be especially important within the medical technology industry in China because of the immaturity of the market, but also to get in contact and establish relationships with certain stakeholders who can contribute to the sustainable PSS innovation process. One of the respondents expressed this by stating

“You should deliver according to what you promise. Otherwise the customer will lose their confidence for your company… Otherwise the brand in the Chinese market, you know the reputation is really important when your brand goes to a market”.

Furthermore, the awareness in the society should not only be increased to cover the company itself, but also the industry and the need for services related to medical technology products, such as customer support.

“We need to bring this type of awareness to the market first. And like the customer to understand why we do XX, and why you need customization, not a standard XX…so we should pay more attention when we introduce our models to China”.

This kind of awareness is an important aspect to increase social sustainability in China. The regional sales units therefore have to put time and effort into creating awareness for both potential customers and the government, but also to make the Chinese society understand the benefits this type of solutions brings. Furthermore, the sales unit has to realize that long-term acting is essential to succeed on the market. Understanding this will also decrease the risk of taking shortcuts to achieve rapid and short-term results, thus resulting in economical sustainability.
4.1.2 Basis for interaction between the region and its internal and external stakeholders

Communication was highlighted by several of the respondents as fundamental for the regional unit to build mutual understanding and coordinate the work within the regional sales unit. This facilitates the internal cooperation and it is therefore important to build capabilities that provide the company with a basis for interaction both internally and externally. Table 5 in Appendix I presents some of the respondents’ statements that resulted in the analysed need for this capability. Interacting with stakeholders is crucial for the regional sales unit to find new ideas and ideas for improvement regarding the sustainable PSS solutions and the commercialization of these.

Build a network of external stakeholders

The analysis showed that word of mouth and interpersonal relationships is fundamental in China to build trust for the company and its sustainable PSS solutions. This is noticed by one of the respondents that stated

"Chinese culture is a lot about building a relationship and that they should feel confident and all of that.”

Another respondent also stated that

“…we tried to use our network, it is possible to influence a lot of things in China if you have the right contacts that can kind of help you to speed up the pace in this process.”

Having a broad network of external stakeholders could therefore reduce barriers regarding processes connected to the companies’ market operations. This was also confirmed by the observations where networking was found to be one of the key activities at the Chinese sales unit. Like previous researchers, such as Child & Tse (2001) and Shou et al (2014), this research found that networks often result in different benefits such as more rapid approvals from stakeholders, access to new assets and information but also enhance the work of following the regions’ laws and regulations. This is especially important on the Chinese market since following rules has become vital for gaining status and reliability. However, the analysis also found that other benefits gained are
access to knowledge and experiences that can reduce mistakes and resources spent on double work, and provide inputs from other market actors that leads to continuous development of sustainable PSS innovation. The analysis showed that the unit has to prioritize important stakeholders, meaning that they have to decide which stakeholders are crucial and put more time and effort in certain relationships to proceed with the process of selling and commercializing sustainable PSS on the Chinese market more rapidly. The unit should also be able to manage relationships with external stakeholders, which means that they should know how to approach stakeholders and understand their way of thinking in order to establish and maintain long-term relationships. Expanding the network through current relationships and network organizations can also lead to new contacts and thereby also new opportunities on the market. One respondent stated:

“I can give the speech in the seminars, in the company centre or in some universities… The XX in the XX will organize some of their XX to come to us and make them try our products”

Using current relationships to constantly expand the network means that the company’s sustainable PSS innovation can be enhanced as potential collaborations, new ideas and understanding about the market structure will increase within the unit. Being able to build relationships with external stakeholders is therefore a fundamental success factor for companies that want to manage sustainable PSS innovation for emerging markets.

**Build internal cooperation and understanding**

Many respondents mentioned the importance of working tight together within the regional sales unit to coordinate the launch and delivery of sustainable PSS. The analysis also showed that in order to manage this successfully it is essential for the different functions to be able to understand each other and cooperate. This relates to the importance of promoting cross-functional awareness, where several respondents also pointed out the importance of making sure that each function has a clear picture of what their responsibilities are, and how they complement each in order to coordinate and streamline the Chinese sales units market operations. In this way barriers and challenges related to cultural differences, values and experiences could be reduced. As one respondent expressed
"We can share some experience together and when we go out to meet some officer or some clients, we can just work together to communicate with the clients and that is a good chemistry."

This research confirms the views of Wang, et al (2004) and Dong & Glaister (2009) that some important challenges are that Chinese employees sometimes prefer not to ask questions, provide feedback and take initiative to communicate. This relates to the importance of reducing barriers for personal communication to increase the confidence among the employees. Another respondent expressed this issue as follows

"Most of the employees here have been visiting the MNC’s HQ so they know who they are talking to. Then it becomes much more easy since they know who they are talking to… here people can sometimes be afraid to contact others."

Furthermore, the analysis showed that it was easy to focus too much on one’s own work, which affected the understanding for other peoples work. Internal understanding thereby facilitates interaction with internal stakeholders and the MNC HQ and also reduces the risk of missing opportunities and wasting resources and time on unnecessary activities such as double work, which makes the PSS innovation more effective.

The region has to deliver reliable and accurate regional information internally to the MNC HQ in order to ensure that developed sustainable PSS meet market requirements. This means that communication has to be made regularly through reliable channels to ensure that information is delivered on time and in an established way to avoid misunderstandings and loss of important information.

4.1.3 Coordinate the regional unit and streamline delivery procedures

Coordinating the regional sales unit internally is fundamental to make the unit’s work with sustainable PSS innovation run more smoothly in a continuously better way. The procedures for delivery of the regional unit’s sustainable PSS innovation as well as the building of common values enable integration of the MNC’s overall goals and best practises, but also collaboration internally. Coordination enables delivery of accurate information from the regional sales unit to the HQ, thereby also facilitate the decision-making regarding sustainable PSS innovation. Table 6 in Appendix I illustrates this by
summarizing some important answers that the respondents gave regarding the second order themes and the first order codes that belong to this capability.

**Build sustainable PSS delivery procedures**

The analysis of this research showed that to make sure that the market needs in the region are satisfied it is important to build procedures for delivering sustainable PSS. One respondent explained

“Normally you go out and make a XX, when someone has realized that that this customer needs this product. Then our sales people goes out and makes what we call a XX, where the settings are set and controlled, and it should be this support and this XX is necessary and so on… and then we deliver the product in this way”.

These procedures help the regional sales units work to provide the MNC HQ with a basis of accurate information for making well-grounded decisions regarding sustainable PSS innovation. Several respondents also mentioned this as a key challenge and expressed a need to communicate and share accurate information and resources internally by finding a structure and a more predetermined way of doing this by stating what kind of information that should be delivered. The respondents also expressed a willingness to learn from other regional units, meaning developing their collaboration and communicate more cross-regionally to learn new ways of working or solving commercialization problems of the sustainable PSS. Potential benefits found in the analysis were saved resources, more optimized work and continuously improved delivery of sustainable PSS to customers. Integrating best practise for sustainable PSS delivery was also found to be important at the regional sales unit to keep consistency within the MNC. This included for example routines for how to approach customers among the employees with less experience of the industry. As customer feedback is a key factor for further sustainable PSS innovation, some respondents also highlighted the importance of capturing and delivering customer follow up feedback. One of the respondents stated that

“For our customers I think the most important thing is the reaction time. You know we have a special customer group, so how to take care of them is really important… if something happens we should have a fast reaction to the customer.”
This means that the unit should have procedures for how to continuously capture feedback and also making sure that feedback regarding specific cases is shared within the organization. Building sustainable PSS delivery procedures was therefore found to be a key capability for delivering sustainable PSS that fulfils the MNC’s standards and keep a high rate of customer satisfaction.

Build common values

The analysis showed that established common corporate values are beneficial for the regional unit’s development of sustainable PSS innovation as it increases the employees’ confidence to become more creative, collaborate better and strive to achieve common goals. In accordance with Dong & Glaser (2009) and Wang et al (2004), this research found that Chinese corporate values in general are influenced by hierarchical structures and thereby traditionally unwillingness to think outside the box and engage in matters outside the individual work description. However, several respondents expressed that common values which promote interaction and learning between colleagues in the MNC is appreciated. The analysis also showed that the company’s integrated corporate culture with its open climate for discussion was one of the most appreciated aspects. One of the respondents stated

“We don’t want to manage people or control people. We want them to give their best contribution. So this is a really important culture for the company”.

Several respondents highlighted the importance of achievements, and respondents with employee responsibilities also remarked the importance of promoting self-motivation and integrating the corporate strategy throughout the entire organisation. This means that the unit ensures the building of a climate where motivation can grow and where the employees can understand the strategy and thereby also contributes according to their abilities. Building common corporate values means that the unit gains the increased ability to further develop, and find new ideas and opportunities on the market. Building common corporate values is therefore an important routine for MNCs’ regional sales units in China.
4.2 Building market-linking capabilities

All market-linking capabilities found in this research are dynamic and as discussed by Teece (2007) and Helfat and Pertaf (2003) therefore develop the company’s other capabilities, but also continuously needs to be further developed. The analysis resulted in a model consisting of three stages that are dependent of each other, and therefore also merge into each other. Table 7 in Appendix II provides a summary of the major focus areas in each stage. The activities that the regional unit should engage in to build the capabilities are therefore often performed in parallel with each other. Certain activities can also be performed to build more than one capability simultaneously, which makes the building of the capabilities very complex. Examples of activities performed in different stages of the model are visualised in Appendix II, table 8. The key stages that this analysis found as fundamental for succeeding with the building of market-linking capabilities are Identify & Create, Use & Understand and Maintain & Develop. These stages are visualized in figure 4. First the need for developing a capability is detected and conditions for making it possible to build the capability are created. These conditions are then integrated as routines, which should be developed when conditions changes on the market. An important aspect of the framework presented in figure 3 is that market-linking capabilities has to be further developed as the market develops, which happens in a rapid pace in emerging markets. It is therefore vital to continuously identify and create new routines in order to meet the market needs. This research also agrees with Helfat and Pertaf (2003) that the capability matures and the Maintain & Develop stage can thereby also result in that an already established capability can be the starting point for a new capability, as the old capability further develops into a new capability, hence starting over at the first stage. It can also result in an out phasing of the old one depending on the region’s need for a certain capability at a certain time.
4.2.1 Identify and Create

The capability building begins when the regional sales unit realizes the need to build a new market-linking capability. In this stage, the unit identifies which capability to build and starts with creating or providing the basic tools, fundamental frameworks and opportunities for activity that the regional unit needs in order to start the building. Typical activities in this stage have been found to be the creation of various systems to, for instance, collecting and sharing experiences and two-way communicating internally or externally. Other activities include creating common documents and templates to specify which type of market information is needed for sustainable PSS innovation, providing clear performance measurements, setting up activities and meetings internally to create opportunities for asking questions and learning tacit knowledge, and utilizing the brand image to establish initial cooperation with key stakeholders by giving brief introductions of the sustainable PSS solutions. This first stage is the basis for further establishment of the market-linking capabilities.

4.2.2 Use and Understand

In the second stage the sales unit should integrate the conditions that were provided in the previous stage. The unit should learn how to use the tools, integrate the
frameworks and take advantage of the opportunities that were identified and created. This is the stage where routines are formed and where the regional units start to learn how to perform and use these routines. Often by establishing understanding and performing activities repeatedly. Typical activities performed by the regional sales unit during this stage are spending time in the market by visiting expos, conferences, shows and other events to meet stakeholders, listening, asking questions, observing and showing the products. In this stage, the unit engages in activities that increase the understanding by providing training, interviewing other colleagues cross-functionally, and engaging in international network organizations. It is also important that the unit is allowed to engage in learning by doing activities to find its unique way of improving its abilities on the Chinese market, and to be able to stay flexible and act on quick market changes or opportunities on the emerging market. This stage therefore ensures that the sales unit implements routines of what was founded in the first stage and thereby also starts the creation of the actual capability.

4.2.3 Maintain and Develop

In the last stage, the regional sales unit should further develop the capability and make it embedded in the regional sales unit’s structure and memory. Typical activities in this stage is to deepen cooperation with key stakeholders, build trust and discussing what benefits the stakeholder can get and what we can give if commitments are made. The unit also have to decide when the market-linking capability is satisfying and does not need further development, instead maintaining it by keeping it on a steady level for further usage. This means that the unit does not engage in activities as intense as in the previous stage, but still makes sure that the capability is kept within the region by continuously performing previous activities repeatedly. This study found that typical activities for maintaining market-linking capabilities is to engage in follow-up activities with stakeholders such as follow up calls and meetings externally and internally, and having developed routines for sharing feedback regarding specifically designed customer solutions between and within regions. In this stage, the capability can also die if it is not needed any more. Another important aspect of the framework in figure 3 is that market-linking capabilities has to be further developed as the market develops which
happens in a rapid pace in emerging markets. Due to the fact that market-linking capabilities has to be further developed as the market develops it is vital to continuously identify and create new routines in order to meet the market needs. This stage can therefore also be a starting point for the identification and creation of a new capability, which in that case makes the building start over in stage one again.
The purpose of this research was to enhance sustainable PSS innovation for MNC sales units that operate in emerging markets by addressing the following RQs; (1) which market-linking capabilities are important for MNC providers of medical technology to facilitate successful sustainable PSS innovation for emerging markets? and (2) how can MNC providers of medical technology develop market-linking capabilities to facilitate successful sustainable PSS innovation for emerging markets?. From observations and in-depth interviews with key employees at a MNC within the medical technology industry we found some important abilities to possess at the sales unit in order to manage sustainable PSS innovation, which increase the economical, environmental and social sustainability in emerging markets, e.g. China, and also ways for building these. This resulted in three market-linking capabilities; Mutual understanding between the region and the market, Basis for interaction between the region and its internal and external stakeholders and Coordinate regional unit and streamline delivery procedures. The research has thereby contributed to the current market-linking capability literature by clarifying how the development of these capabilities goes through three stages; Identify & Create, Use & Understand and Maintain & Develop. It has also contributed to the sustainable PSS innovation literature since it adds a social aspect to the concept sustainable innovation.

5.1 Theoretical contribution

This research has taken sustainable PSS innovation to the next level by adding a social dimension to the concept. The framework and model for building market-linking capabilities provides companies in the medical technology industry with preconditions for succeeding with sustainable PSS innovation in emerging markets and thereby further contribute to social sustainability in an environment where social conditions are developing. Our research thereby differentiates from Ceschin (2013) and Boons et al (2013) that solely focus on sustainable innovation from the economical and environmental perspective. However, the economical and environmental aspects of sustainable PSS innovation have not been excluded in this research since it enables
increased competitiveness and sustainable PSS that last longer and decrease the environmental impact.

Current researchers such as Parida et al (2015), Davies et al (2006) and Kindström et al (2013) have mainly focused on capabilities for manufacturing companies’ central units, such as the HQ or by viewing the company as one whole unit. They have therefore included the preconditions and characteristics of these types of larger, often more powerful units in their studies while focusing on the transition towards sustainable PSS. Other authors such as Tseng & Lee (2010) and Chen et al (2016) have viewed market-linking capabilities in regional, uncertain environments, and found connections between sustainable PSS and entry modes. However, they have not succeeded in providing any framework for which market-linking capabilities that are important in these kinds of contexts. Distinct from these authors, the findings presented in this research is aimed to MNC’s front-end regional sales units and thereby provides new insights regarding the importance of market-linking capabilities, and the building of these for individual foreign sales units in emerging markets. Furthermore, this research also presents market-linking capabilities in a more holistic way, where the regional sales unit, the MNC itself and the external environment are considered simultaneously, but still as separate functions, which were lacking in previous research. Thereby, this research has succeeded in fulfilling the gap in previous literature and present market-linking capabilities in a new context.

In accordance with Helfat & Pertaf (2003) we found that market-linking capabilities develops over time and therefore can be seen as dynamic. Our framework has some similarities with the capability lifecycle presented by Helfat & Petraf (2003), since it views capability building through a stage-wise maturity process. However, unlike these authors, our model focuses on market-linking capabilities and not capabilities in general, which implies that the building is influenced by external market conditions to a greater extent. Helfat & Pertaf (2003) also means that the more frequently an activity is performed the more mature the capability becomes. Our model does not have this limitation since we found that some activities are important to focus on and perform
more frequently in the beginning, while it is possible to reduce the intensity or replace them by other activities and routines to further develop the capabilities.

5.2 Managerial implications

Management in many MNCs have already, or are striving to establish sales units in emerging markets. Previous literature highlights the increasing rivalry in China and the importance of providing uniqueness in the form of sustainable PSS to stay competitive in this new environment. Regional managers notice the immaturity within the medical technology industry as a major practical challenge when trying to succeed with sustainable PSS innovation. This is especially challenging for foreign managers in regional units since the market environment is unfamiliar and the way of handling the market is therefore in many cases uncertain trial and error acting. We found some key abilities that are considered as important for the sales units to possess in order to manage innovation of sustainable PSS, which increase the economic, environmental and social sustainability of their offerings in emerging markets, and also ways for building these. Our research has important implications as the market-linking capability framework can help guide MNCs’ regional units within this industry that face similar challenges. More specifically, our framework enhance sustainable PSS innovation by giving the regional sales unit a holistic set of market-linking capabilities that are important to develop, and thereby reduces the initial uncertainty and need for solely trial and error acting. This framework can thereby act as a support and provide effectiveness when the organisation rapidly has to adapt to new conditions and thus enhance increased economic performance in emerging markets.

This research has given new insight into the unique social aspects on emerging markets, e.g. China, which laid the ground for increased understanding among the regional managers to better manage sustainable PSS innovation and thereby further contribute to sustainability in emerging markets. In particular, this research has highlighted that market linking capabilities can be an important mechanism for building social sustainability in emerging markets by building and sharing market knowledge. The
environmental aspect of sustainability is also enhanced by this research since sustainable PSS involves services that slow down the speed of customers product replacement rate.

With this research, we have helped managers realize the positive effects of building market-linking capabilities to enhance sustainable PSS innovation from a social, economical and environmental perspective. Firstly, for the mutual understanding capability, managers should now realize that both providing and gaining market understanding is equally important in emerging markets. Secondly, for the stakeholder interaction capability, managers are provided knowledge in the fundamental importance of building relationships both externally and internally on the market, but also new insights regarding important factors to consider when doing this. Finally, for the coordinate and streamline capability, managers should realize that they have to devote time and effort into uniting the region and make it act as one unit to become efficient and provide new ideas into the sustainable PSS innovation processes.

Our three-stage model helps MNCs to meet the challenges that are highlighted by previous researchers as it provides sales units in emerging markets with a springboard for how to coordinate and organize their resources in order to build market-linking capabilities. It enables the regional management, but also other employees, to prioritize and make a plan for which activities to perform, when and to what extent in order to build market-linking capabilities. Having a clear plan and streamlining the work provides effectiveness and increases the competitiveness on the market as it enables consistency in the sustainable PSS innovation process. This research is therefore of high relevance for regional managers that coordinates the strategic work and daily operations at sales units in emerging markets such as China.

Each region are expected to manage the sustainable PSS innovation process towards their market and operate due to the specific market conditions within their region, but still provide the MNC HQ with basis for decision to develop global sustainable PSS. Our research has therefore implications for central units as it gives insight into the Chinese market characteristics and the market-linking capabilities that the unit should build to succeed with their sustainable PSS innovation process. Successful innovation
towards the regional markets makes it possible for the entire corporation to increase the
market performance and reach overall goals and strategies.

5.3 Limitations and further research

The capabilities found in this research are highly dependent on each other, which
imply that several activities can build different capabilities simultaneously. We therefore
suggest future researchers to look further into the capabilities dependence of each other
and how this influence the building.

As in many emerging markets, the market characteristics in China are unique in many
aspects and constantly changing due to conditions in the internal and external
environment, such as available resources, circumstances on the market and the MNC’s
approach to the regional sales unit. These specific conditions and the case company’s
experience within the market might therefore have influenced which market-linking
capabilities that were considered as important. However, the capabilities found in this
research are seen as general and should thereby be possible to apply for companies in
emerging markets, even though certain activities for building these market-linking
capabilities can evolve over time. Furthermore, more research therefore has to be
performed under different contexts and study other case companies in other industries
and markets.

Changing conditions in either the internal or external environment can also lead to
interruption of the market-linking capability building. Some capabilities might need to
go back in the building model and others might be cancelled. One limitation of this
research is therefore that these kinds of changes are not handled in the model for
building market-linking capabilities.
REFERENCES


# APPENDIX I

## MUTUAL UNDERSTANDING BETWEEN THE REGION AND THE MARKET

Table 4: A summary of the second order themes included in the first capability *Mutual understanding between the region and the market.*

<table>
<thead>
<tr>
<th>First order codes</th>
<th>Representative quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect and share experience and information internally</td>
<td>“So there’s some communication that try to help us kind of align what we’re doing. What did you guys do, what information did you have, what worked?”</td>
</tr>
<tr>
<td>Learn from external stakeholders</td>
<td>“I think we need to be able to have a good strategy for getting that information from the market, and that comes to just resources of people that we can have out in the field. To provide that information and keeping regular communication with people that we trust in the market whether that be XX or XX and people we can call on saying how are things going? We need to always be open to and respect what they have to say and try to continue to establish that.”</td>
</tr>
<tr>
<td>Learn from experienced organizations</td>
<td>“I think that we can learn from larger organizations that often have a structure or more bureaucracy in things, so that it will not just be the person that shouts the highest that gets their requirements approved. That is not unusual”</td>
</tr>
<tr>
<td>Build regional market understanding</td>
<td></td>
</tr>
<tr>
<td>Provide and share information through digital media platforms</td>
<td>&quot;What is important in China, maybe more important than in other places is to have a really clear digital strategy for how to work with digital tools… In China it is necessary to continuously update these things because it is a channel for us to come closer to the customers and tie them closer to us”</td>
</tr>
<tr>
<td>Provide and share information through market activities</td>
<td>&quot;Yeah I think you need to be in the market to understand it. I mean it’s hard to just go to interview a few people and know exactly what product to make, you need to do a very thorough job and spend some time in a specific market or business region”</td>
</tr>
<tr>
<td>Communicate a reliable brand image</td>
<td>“The company means you should deliver according to what you promise. Otherwise the customer will lose their confidence for your company. Not only for XX. I see a lot of other companies they say yeah I can do this tomorrow, it’s better you can do what you promised. Otherwise the brand in the Chinese market, you know the reputation is really important when your brand goes to a market. So I think that is really important.”</td>
</tr>
<tr>
<td>Build external awareness about the industry, products and company in the region</td>
<td></td>
</tr>
</tbody>
</table>
### BASIS FOR INTERACTION BETWEEN THE REGION AND ITS INTERNAL STAKEHOLDERS

**Table 5: A summary of the second order themes included in the second capability**  
Basis for interaction between the region and its internal and external stakeholders.

<table>
<thead>
<tr>
<th>First order codes</th>
<th>Representative quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Build a network of external stakeholders</strong></td>
<td></td>
</tr>
<tr>
<td>Prioritize important stakeholders</td>
<td>“Being able to reach out, pick up the phone, and just chat with somebody who is buying our products, saying: Hey how’s it going? And they might not be the biggest customer, they might not be you know, but trying to also find those people that do very interesting and good things”</td>
</tr>
<tr>
<td>Manage relationships</td>
<td>“How we get these relationships is we form different channels. Like introduce this people. And we can hold some activities together, and we familiar with the responsible people. Then you have can impact.”</td>
</tr>
<tr>
<td>Expand network through current relationships and network organizations</td>
<td>This was found through various observations such as when the researchers participated in a networking event at the case company’s office.</td>
</tr>
<tr>
<td><strong>Build internal cooperation and understanding</strong></td>
<td></td>
</tr>
<tr>
<td>Deliver reliable and accurate regional information</td>
<td>“I mean think that you need to have a way to know if you have a high level of confidence regarding your knowledge of that market so there has to be a source for the information that you’re giving in.”</td>
</tr>
<tr>
<td>Communicate regularly through reliable channels</td>
<td>“The most important with the communication and the fundamental is that the technology works so it is possible to talk to each other.”</td>
</tr>
<tr>
<td>Reduce barriers for personal communication</td>
<td>“From here people sometimes are afraid of contacting or why should I call now or this is not important and then postpones it, it is so much easier. So this is the most important I would say, that knowing each other and having met and such enhances the communication.”</td>
</tr>
<tr>
<td>Promote cross-functional awareness</td>
<td>“You know we try to work more closely with sourcing and purchasing and some of these other, and there is so many other departments that are involved when it comes to delivering a product, and I feel like it is easy to overlook it sometimes. But to follow up with them and again make sure that they know what’s coming and that you know we are again making sure that everyone is aware of the changes.”</td>
</tr>
</tbody>
</table>
Table 6: A summary of the second order themes included in the third capability *Coordinate regional unit and streamline delivery procedures.*

<table>
<thead>
<tr>
<th>First order codes</th>
<th>Representative quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Build sustainable PSS delivery procedures</strong></td>
<td></td>
</tr>
<tr>
<td>Learn from other regional units</td>
<td>“I could probably communicate with them more. Just to almost get aligned to say, what is going on in Europe and what are you doing and to try to, again the communication part is a key, towards what are you doing a custom work on? What should we be doing here? Find out ways we can improve our products.”</td>
</tr>
<tr>
<td>Communicate and share accurate information and resources internally</td>
<td>“Normally we would work together with marketing, and marketing can get suggestions from us so they can make what works in our country.”</td>
</tr>
<tr>
<td>Integrate best practice for sustainable PSS delivery</td>
<td>“Building a structure, a model to work with systematically. Both strategic, tactically and on a daily basis”</td>
</tr>
<tr>
<td>Capture and deliver customer follow up feedback</td>
<td>“Customer support is essential regardless of company or which industry you operate in. But for us it is sometimes absolutely crucial. If we have a problem with one of our products, it is not like the customer can wait... So this has to work.”</td>
</tr>
<tr>
<td><strong>Build common values</strong></td>
<td></td>
</tr>
<tr>
<td>Integrate a common corporate culture</td>
<td>“It is not only one manager who can build this company or develop this company. We are a team. We work together. I think this culture is healthy”</td>
</tr>
<tr>
<td>Promote self motivation</td>
<td>“If a good employee you don’t need others to motivate you. You need the self-motivation. So how to say, you want to do something to initiate something yourself. Not just waiting for others to motivate you.”</td>
</tr>
<tr>
<td>Integrate corporate strategy</td>
<td>“We communicate from our management employee from our team to their team. We improve the communication and also transfer the same understanding for this strategy. Then the people can work for you”</td>
</tr>
</tbody>
</table>


### APPENDIX II

**AREAS TO FOCUS ON WHEN BUILDING MARKET-LINKING CAPABILITIES**

Table 7: Summary of the major focus areas within each of the capability building stages

<table>
<thead>
<tr>
<th>Building market-linking capabilities</th>
<th>Identify and Create</th>
<th>Use and Understand</th>
<th>Maintain and Develop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Identify which capability to build</td>
<td>- Provide training for utilization of tools</td>
<td>- Further develop the capability</td>
</tr>
<tr>
<td></td>
<td>- Create and provide tools, frameworks and opportunities for building the capability</td>
<td>- Integrate frameworks and opportunities</td>
<td>- Decide if the capability should be maintained or die</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Perform activities reputedly</td>
<td>- Identify creation of new capabilities</td>
</tr>
</tbody>
</table>
# ACTIVITIES IN THE MARKET-LINKING CAPABILITY BUILDING

Table 8: Examples of activities to perform in each capability building stage

<table>
<thead>
<tr>
<th>Activities</th>
<th>Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identify and Create</strong></td>
<td></td>
</tr>
<tr>
<td>Promote global and regional job rotations.</td>
<td>“We intend to, also in an HR-perspective, to have employees whom want to develop with us. We have people who have moved from supply to sales for example, and that is something we encourage and want to see more of in all positions”</td>
</tr>
<tr>
<td>Take advantage of the brand image to establish an initial cooperation and find common interests among external stakeholders.</td>
<td>“I came and go there I think four times. In the first time I just make a brief introduction of our products, and we establish an initial cooperation. We need to find the common interest”</td>
</tr>
<tr>
<td>Create opportunities for asking questions and learning from colleagues with tacit knowledge and experience of the regional market.</td>
<td>“Working on small events like we have done here, product trainings and that kind of things where we have worked in groups. The improvement projects are good examples of when people have come together. Not just the daily work when you just deliver things”</td>
</tr>
<tr>
<td><strong>Use and Understand</strong></td>
<td></td>
</tr>
<tr>
<td>Spend time in the market by visiting expos, conferences, shows and other events to meet stakeholders.</td>
<td>“Keep your eyes open, listen, go to exhibitions, talk to people on exhibitions, talk to other manufacturers…try to get the knowledge of the competitors that is there, be active”</td>
</tr>
<tr>
<td>Perform interviews with colleagues from different departments.</td>
<td>“We interviewed our sales team for example quite extensively about certain customers type of products but also what are the drawbacks of existing products so we did quite a bit of research…and when we released the product in 2011 it was very well received by the market because we addressed some kind of critical shortcomings of the existing product that was on the market by our competitors”</td>
</tr>
<tr>
<td>Continuously review customer feedback by using an integrated system.</td>
<td>”If there is a complaint about any of our products it goes through something that we call product complaints, this has its own system where all complaints from customers are logged. And we go through this twice a week, we check different complaints that have been received”.</td>
</tr>
<tr>
<td>Involve external stakeholders in the sustainable PSS innovation process.</td>
<td>“He knows a lot of people and he just makes phone calls and talks to people… just chat with somebody who is buying our products saying “Hey how is it going? They might not be the biggest customer…but at the same time they can give us some really good insights”</td>
</tr>
<tr>
<td><strong>Maintain &amp; Develop</strong></td>
<td></td>
</tr>
<tr>
<td>Perform product training, seminars and speeches for external stakeholders.</td>
<td>“There was no knowledge about our products, so we had to educate them in what we actually are trying to sell here in China”</td>
</tr>
<tr>
<td>Further make use of feedback from information systems for sharing feedback regarding specific customer cases between and within regions.</td>
<td>“Sometimes we can be creating something very fantastic and custom and nobody really knows about it, maybe the sales rep that requested it for and the client knows about it how well it is but if that rep is not shouting it to everybody we don’t really have a great method of sharing that, and that’s something we are going focus on, but again that communication is so important”</td>
</tr>
<tr>
<td>Pay attention to individual and team achievements and provide opportunities for appreciation.</td>
<td>“After six months you can present your result. So the people in the team they are really proud of that, to do the presentation on the stage to all employees. So they think that ah we have achieved something, and that is really important for my self also. I can do something for the company”</td>
</tr>
</tbody>
</table>
APPENDIX III

INTERVIEW GUIDE - WAVE 1

General questions

For how long have you been working for this company?

What do you consider as the most important mission for this company?

What is your job title?

Which are your main responsibilities?

What is your role in the development process of the company’s offerings?

What do you consider as the most important mission for the R&D unit?

What is your role in the development process of products, equipment and services for foreign markets?

Questions about requirement specifications from the market

Who is responsible for the creation of requirement specifications for your market?

- What is your role in this process?

What does the requirement specifications include?

What knowledge does the regional sales unit need to provide in order to create successful requirement specifications?

Can you tell us about a project where the interaction with the foreign regional sales unit resulted in successful development of requirement specifications?

- What made the interaction so successful in this project?

What do you consider the most important challenges in the development of requirement specifications?

Are there any specific challenges when developing requirement specifications for foreign markets?

Can you tell us about a project where the interaction with the foreign regional sales unit...
unit were a problem for R&D’s creation of the requirement specifications?

Do you think that the requirement specifications for foreign markets should cover something that is currently not included?

**Questions about the regional sales unit**

What do you consider the most important challenges in the interaction between R&D and foreign regional sales units?

How do regional sales units contribute to R&D’s development of products, equipment and services?

What do you consider as the most important task for the regional sales units in the development process of products, equipment and services for foreign markets?

How does the interaction between R&D and foreign regional sales units look like, and who is responsible for R&D’s interaction with foreign regional sales units?
INTERVIEW GUIDE A - WAVE 2

Questions about understanding market needs

What kinds of information are asked for from global product management?

What kinds of needs from your region have been recognized in product development projects?

What kind of market information is the most difficult to collect and understand? - Why?

What stakeholders do you need to interact with to understand the markets’ needs?

How do you do to understand their needs?
- What activities do you perform to understand the requirements and needs of the markets in your business region?

At what time in the product development process are you asked to bring the opinions from your region to global product management?

What kind of information from the region is the most difficult to communicate to the HQ? - Why?

Which abilities do you think are important for a regional sales unit in order to understand the markets needs?

What makes you motivated to put time and effort in your work and feet on the street activities?

What possibilities do you have to contribute with new ideas for product development projects?

Questions about regional collaboration

How does the collaboration between regional product management and sales look like in your region?
- What kind of activities do you perform together?

How does the collaboration between regional product management and marketing look like in your region?
- What kind of activities do you perform together?

What kind of activities do product management, sales and marketing perform together to understand your region’s needs? - What factors are the most important to make this collaboration as successful as possible?
How frequently do you interact with other regions?

How does your region’s needs look like compared to other regions?

**Questions about prioritizing market information**

How do you prioritize market input from your region?

How do you estimate volumes and numbers for new product development projects?

How do you ensure the trustworthiness of these numbers and other market requirements from the region?

**Questions about awareness**

How does your region work to create awareness about the company’s new products?

What kind of industry specific knowledge is important to have at your business region?

How do you develop this knowledge?
INTERVIEW GUIDE B - WAVE 2

Questions about having an open mindset and process orientation
Why did you want to work for this company?
What do you appreciate the most with working for this company?
Which activities that you have attended to together with colleagues did you find most inspirational for your work?
How is the work structured within the regional sales unit in your region?
Can you tell us about something that you have done when working for this company that you are really proud of?
Can you tell us about one achievement that you are proud of that you have done together with your colleagues?
How did you work to establish a common corporate culture when establishing your unit in China?
What do you consider as the most important parts of this corporate culture?
- Which activities did you perform at this company to build this culture?

Questions about adaptability
What impact does rapidly changing market conditions (such as laws and regulations) have on your work?
What is important in order to manage rapid changes in the market conditions?
- Can you give some examples of activities are important for handling these challenges?

Questions about promoting an entrepreneurial spirit
What makes you want to put time and effort in your work?
How does this company work in order to ensure that the employees at the Chinese regional sales unit are willing to put time and effort in their work?
How do you manage employee motivation in an environment where it will take time to get measurable results?

Questions about regional knowledge
How does the funding system affect your work within sales and marketing?
Which steps are necessary to take to build up of the funding system in China?

How do you think that this company should approach this?

What kind of market information is the most difficult to collect and understand?  
- Why?

What activities do you perform to understand the requirements and needs of the markets in your business region?

What kind of information from the region is the most difficult to communicate to the HQ?  
- Why?

Can you give an example of when credibility and status has played a critical role?  
- How did your company approach this?

**Questions about stakeholder Knowledge**

Which stakeholders are important to build relationships with when you are in this industry?  
- Which kinds of activities are important to perform in order to build these relationships?

What steps do you think are necessary to take to find potential customers in China?

What steps do you think are necessary to take to get in touch with customers and potential customers in China?

How did you do and which activities did you perform to find current customers in China?

What are the most important things to have in mind when meeting a current customer, or a potential customer, in China?

What do you think is most difficult for foreigners to understand about the customers in China?

What are the most important things to have in mind when meeting officials?  
- How do you build relationships with officials?

**Questions about industry knowledge**

What are the main differences of working with sales in this industry and other industries?  
- What abilities do you think are important to have to be able to manage these differences?

Is there anything else that you think could be good for us to know about?
INTERVIEW GUIDE C - WAVE 2

Questions about service performance

What is important in order to make the customers perceive the service as satisfying when doing an initial discussion to find a suitable product for them?
- What is important during the delivery?
- What is important during the after sales service?

Why does this company invest in the development of new services such as the XX?

Questions about routines and activities related to our framework

Which routines and activities is important in order to…

- Build regional market understanding?
- Build external awareness?
- Build networks of external stakeholders?
- Build internal cooperation and understanding?
- Build sustainable PSS delivery procedures?
- Build common values?

How you think that this framework can contribute to the work at the regional sales unit?

- How can you make use of it?