Aalto University
School of Business

THE IMPACT OF NATIONAL CULTURE ON HOW INNOVATION IS FACILITATED

A Comparative Study of Innovation-Enhancing Management Practices in Chinese and Finnish Companies

Master's Thesis
Ilari Autio
Aalto University School of Business
Fall 2019

Aalto University
School of Business

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi

Abstract of master's thesis

Author Ilari Autio

Title of thesis The Impact of National Culture on How Innovation Is Facilitated: A Comparative Study of Innovation-Enhancing Management Practices in Chinese and Finnish Companies

Degree Master of Science in Economics and Business Administration

Degree programme Entrepreneurship and Innovation Management

Thesis advisor(s) Professor Carl Fey

Year of approval 2019 **Number of pages** 88+19 **Language** English

Abstract

The purpose for this thesis is to try to understand main differences in innovation management practices that emerge in different cultural context, namely China and Finland. The study creates a framework of innovation-enhancing management practices based on the literature on innovation, entrepreneurship, and human resource management and subsequently aims to combine this knowledge with the cultural dimensions of Hofstede (1980; 1984) and business system theory by Whitley (2000) to explain the differences of how this process works in different countries. Innovation-enhancing management practices focus particularly on empowerment-enhancing HRM practices and knowledge management practices.

I conducted a semi-structured interview study with three companies in China and three companies in Finland. The methodology was an application of a grounded theory building through case studies in order to uncover the differences in management practices in Chinese and Finnish companies. Overall, I identified 67 different management practices, out of which 33 practices were considered to be innovation-enhancing management practices. These were further divided under five innovation-enhancing management practice groups: promotion of learning, training, efficient procedures, empowering people and teamwork.

The research suggests that Chinese and Finnish companies utilize different management practices to facilitate innovation. While the companies used practices in all of the management practice groups, the individual practices under each group, which were important, were rather different. However, similar practices were in customer collaboration and utilization of multiple different sources for acquiring new knowledge. Moreover, the Chinese and Finnish companies emphasize teamwork in innovations and empowering individuals but stress the importance of withholding personal liability for risks and honest mistakes emerging in innovation development.

The main contribution of the study is in increasing our understanding of what kind of management practices work in different cultural settings. For example, collaboration activities concerning innovations work differently in Chinese and Finnish companies due to the difference in long-term orientation of the cultures. Moreover, this research shows that while management practices might be similar on a conceptual level, the contents and impact of similarly defined practices often differ significantly in different cultures.

Keywords innovation, human resource management, cultural dimensions, business system, innovation-enhancing management practices, China, Finland, international management

Aalto University
School of Business

Aalto-yliopisto, PL 11000, 00076 AALTO
www.aalto.fi

Maisterintutkinnon tutkielman tiivistelmä

Tekijä Ilari Autio

Työn nimi Kulttuurin vaikutus innovaatioiden johtamiseen: vertaileva tutkimus innovaatioita lisäävistä johtamiskäytännöistä kiinalaisissa ja suomalaisissa yrityksissä

Tutkinto Kauppatieteiden maisteri

Koulutusohjelma Entrepreneurship and Innovation Management

Työn ohjaaja Professori Carl Fey

Hyväksymisvuosi 2019 **Sivumäärä** 88+19 **Kieli** englanti

Tiivistelmä

Tämän tutkielman tarkoituksena on ymmärtää innovaatiojohtamisessa syntyviä keskeisiä eroja, jotka voivat johtua erilaisesta kulttuurisesta kontekstista. Tutkimuksessa käsitellään kiinalaisia ja suomalaisia yrityksiä. Tutkielmassa pyritään rakentamaan teoreettinen viitekehys innovaatioita lisäävistä johtamiskäytännöistä ("innovation-enhancing management practices"), mikä perustuu aiempaan innovaatioista, yrittäjyydestä ja johtamiskäytäntöjä koskevaan kirjallisuuteen. Lisäksi tutkimuksessa pyritään selittämään johtamiskäytäntöjä Hofsteden (1980; 1984) kulttuurien ulottuvuuksia käsittelevään viitekehyksen sekä liiketoimintaympäristöä koskevan teorian (Whitley, 2000) avulla. Innovaatioita lisäävissä johtamiskäytännöissä keskitytään erityisesti yksilön toimintaa mahdollistaviin johtamiskäytäntöihin sekä tiedonhallintaan.

Teoreettisen viitekehyksen perusteella tutkimuksessa toteutettiin teemahaastattelu kolmessa kiinalaisessa ja kolmessa suomalaisessa yrityksessä. Metodina käytettiin soveltaen ankkuroidun teorian rakentamista tapaustutkimusten perusteella, minkä tarkoituksena oli tunnistaa johtamiskäytäntöjen eroja kiinalaisissa ja suomalaisissa yrityksissä. Tutkimuksessa tunnistettiin 67 erilaista johtamiskäytäntöä, joista 33 käytäntöä voidaan pitää innovaatiojohtamiskäytäntönä. Nämä jakautuvat viiteen eri johtamiskäytäntöjen ryhmään: oppimiseen rohkaisemiseen, kouluttamiseen, tehokkaisiin prosesseihin, itsenäisen toiminnan mahdollistamiseen sekä ryhmätyöskentelyyn.

Tutkimuksen perusteella kiinalaiset ja suomalaiset yritykset käyttävät erilaisia johtamiskäytäntöjä kaikissa innovaatioita lisäävissä johtamiskäytäntöjen ryhmissä. Yksittäiset käytännöt näissä ryhmissä olivat hyvin erilaisia, mutta myös yhteneväisyyksiä löytyi: asiakasyhteistyössä, eri tiedonhankintakanavien hyödyntämisessä, ryhmätyöskentelyn korostamisessa sekä yksittäisen työntekijän henkilökohtaisen riskin vähentämisessä.

Tutkimuksen keskeinen anti on eri kulttuureissa käytettävien johtamiskäytäntöjen ymmärryksen lisäämisessä. Esimerkiksi yhteistyö organisaation ulkopuolisten toimijoiden kanssa innovaatiotoiminnassa saattaa olla hyvin erilaista kiinalaisessa ja suomalaisessa yrityksessä, koska kulttuureissa suhtaudutaan eri tavalla pitkäjänteiseen yhteistyöhön. Tutkimus myös osoittaa, että johtamiskäytäntöjä ei tulisi tarkastella vain konseptuaalisella tasolla, vaan yksittäisiä johtamiskäytäntöjä ja niiden vaikutusta tulisi tutkia syvällisemmin, jotta kulttuurin vaikutusta voitaisiin havaita.

Avainsanat innovaatio, johtaminen, kulttuurien ulottuvuudet, liiketoimintaympäristö, innovaatioita lisäävät johtamiskäytännöt, Kiina, Suomi, kansainvälinen johtaminen

Table of Contents

List of Tables

List of Figures

1. Introduction

1.1. Why Should We Research Innovation Management in a Cross-Cultural Setting?

Technological development is essential in order to stay competitive in any market (Abernathy & Clark, 1985). Developing anything new requires insights and processes to carry out the insights. These are typically called innovations, which seems to remain a hot topic continuously, and for a good reason: innovations are inherently difficult to produce effectively although they are important for any organization. Moreover, it seems to be rather difficult to predict how innovations emerge and how organizations can be successful in creating these. Innovations, therefore, are key drivers for competitive advantage and success of organization (Kuratko et al., 2014:44).

From this starting point, it is easy to justify the need to research innovations. However, why should we study innovation management in different cultures? Why should not we just focus on the innovation development itself? Management practices are utilized to impact how the organizations operate, and these have a major impact on the performance of the organizations (Subramony, 2009; Rauch & Hatak 2016). Innovations tend to require some form of creativity or at least processes from the innovator's side, and most of them come from conscious effort and search for innovations, as Drucker (2002: 6) has noted. The question is, therefore, how can we enhance this process and make it more predictable. The purpose for having different management practices in relation to innovations is to enable the organization to produce successful innovations more effectively.

Even outside of the Western countries, it has been quite typical for companies to adopt management practices that are widely considered to be important in the Western tradition, but this has been questioned especially because of the lack of emphasis in cultural context (Hofstede, 1984; Bryman & Bell, 2007: 67). While management practices are typically different in every organization, there are generally adopted best practices that are in use. Because management practices typically concern the human behavior, the understandable criticism from cultural studies boils down to the need to address the cultural aspects alongside other factors.

If we can understand better what kind of management practices are utilized in different cultures and what kind of management practices are effective for innovations, we might have better insights into what kind of innovation-facilitation practices are effective to create

more successful innovations in given cultural context. This thesis will focus on the former question. While this study will not evaluate the second question nor the causal relation between the questions to address the third one, I will focus on larger organizations, since they typically have somewhat more validated management practices especially compared to smaller companies.

On a personal level, my interest in studying innovations comes from the deep interest in how companies transform their operations and organizational structure to answer the needs of the market. Nowadays, this is commonly expected to happen through digitalization, which tends to be difficult especially for older organizations due to old practices and especially legacy information technology systems. For example, old industrial companies face continuous challenges in becoming more efficient and providing bigger impact with their solutions to the customers. Innovations play a key role in this transformation.

1.2. The Purpose of this Research and Research Questions

The purpose of this research is to compare management practices related to innovation facilitation in two quite different countries: China and Finland. These two countries happen to be somewhat familiar to me, which justifies focusing on these two countries. Besides this, the main reason for focusing on China and Finland is that they have very different cultures and leadership styles (Hofstede, Hofstede & Minkov, 2010: 255), and therefore could provide more insights into the differences.

The goal of the research is to develop some form of a theory on the differences. However, due to the methodology that will be used in the study, mainly the grounded theory building, it is impossible to know in advance what kind of result will emerge from the theory and empirical findings. This is why it is important to have freedom to create theoretical framework for the eventual theory as discussed, for example, by Eriksson and Kovalainen (2008).

In order to carry out the research, I have two descriptive questions, which could be considered ‘first order’ questions (Eriksson & Kovalainen, 2008), for the research:

- What kind of innovation-enhancing management practices are used in Chinese companies?
- What kind of innovation-enhancing management practices are used in Finnish companies?

These two questions provide a natural starting point for answering the main research question of the study. In answering these questions, I will not focus on a particular kind of innovation outcome, such as technological, management or strategic innovation, and therefore would not omit any kinds of innovations for theoretical reasons. Instead, I will focus more on the conceptual level of innovation and leave the determination of the concept to the studied companies. Answering the second order, comparative research question requires a satisfactory answer to the two descriptive questions above. The main research question is:

- How the management practices to facilitate innovation differ in Chinese and Finnish companies?

If I can answer this question, it is possible to understand better both what kind of innovation facilitation practices are used in very different cultural settings and what are the main differences. The findings will be preliminary, since this thesis has a qualitative method. However, it can point out some indications for the causal effects of cultural features to the innovation facilitation practices. The thesis is not able to answer to a question on whether such practices are somehow effective or important for achieving successful innovations but might provide a better roadmap for researching these questions and their relation to the cultural framework.

1.3. Structure of the Thesis

The thesis is structured into six chapters. The first chapter introduced the topic and described the research question. The second chapter will focus on the literature review and the theoretical starting points for the research. I will be discussing different aspects regarding innovation and what should be understood about the theory when addressing management practices regarding innovation. Based on the theory, I will formulate management practice groups that enhance innovations in the organization to support the theory building in the analysis phase.

In the third chapter, I will describe the methodology and the data of the study. I will focus on the initial setup for the study and go through the data from both Chinese and Finnish companies, and present theoretically relevant findings concerning innovation-related management practices. The description of the data will be on a conceptual level and does not go into details of what kind of practices exactly the companies are using.

The fourth chapter begins the analysis, in which I will dig deeper into the actual practices behind the concepts. This is one of the two main chapters of the thesis and I will introduce dozens of quotes from the interviews and connect the answers to the theory as well. In the fifth chapter, I will continue the discussion by illustrating similarities and differences in the management practices in China and Finland, and I will discuss possible explanations for these both through business systems and culture. The fifth chapter also has a section, in which the limitations of this study will be discussed.

Finally, in the sixth and final chapter, I discuss briefly about some ethical issues, implications to managerial practices and avenues for future research.

2. Literature Review

2.1. Theoretical Background

The main challenge in researching cross-cultural innovation management practices is the need to address many different theoretical backgrounds and concepts simultaneously. The reason for this is in the nature of innovation itself: it is created by humans, who are complex creatures, and there are countless factors that impact human behavior. This means that there will evidently be some theoretical frameworks that have to be omitted for the purposes of this thesis. Therefore, in this thesis, besides innovations in general, I will address three different aspects of innovation: corporate entrepreneurship, management practices and the role of business system and national culture in innovation development. Due to the large number of different aspects and different theories and models within each aspect, I will try to address the most important ones – and even then, I must do this in a rather concise manner. However, I will aim to provide reference points for further reading.

2.2. Innovation

Providing a definitive definition for innovation is difficult. The term has been used in varied context, such as academics, businesses, communities and societies. For example, according to Porter (1990: 780), innovation is "a new way of doing things […] that is commercialized", which describes innovation on a rather high level. Afuah (2003: 14) also emphasizes the need for having both invention and commercialization of the invention in order to classify a development an innovation. Other, general approaches have been given by, for instance, Christensen (1997) and Abernathy and Clark (1985).

The term has been used in different functional contexts as well, such as when discussing about process and product innovation (e.g. Ettlie et al. 1984). Damanpour (1991: 556) describes innovation as an "adoption of an internally generated or purchased device, system, policy, program, process, product, or service that is new to the adopting organization."

O'Sullivan and Dooley (2009: 5) acknowledges different forms of innovation and how the change of the object of innovation, such as product or process, requires something new, but focuses also to the organizational impact innovation should have: increasing knowledge or the organization. Moreover, they highlight that innovation requires both some form of creativity and exploitation of the idea (O'Sullivan & Dooley, 2009: 8).

There are other definitions from non-academic sources as well, such as from the Organisation for Economic Co-operation and Development, so called the Oslo Manual (OECD/Eurostat 2018: 20), which is commonly referred to as a definition for innovation:

> "*An **innovation** is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).*"

Different companies tend to have different definitions as well, which was apparent in this study, although typical deviations were towards the Porter definition. This lack of a clear definition means that, in practice, one must rely at least on some level to intuitive definition of what innovation means. In order to carry out some form of analysis, however, I will rely generally on the definition provided by Porter described above that an innovation is a *new way of doing something* and *commercializing it*, and expecting that 'new way of doing' requires *new knowledge*, as proposed by e.g. Afuah (2003: 13). Different models for innovation shall be discussed next.

2.2.1. Models of Innovation

As with the conceptual definition of innovation, there are different ways of describing *what* innovations are. Afuah (2003: 13) divides different models into static and dynamic models based on whether the approach is static and the focus in organizations capabilities and knowledge or whether the focus is in the change from old to new. Many models can be seen as complementary at least to some extent, and therefore they could be sometimes utilized simultaneously.

Most common typology of innovations is the division between incremental and radical innovations, although for example Dewar and Dutton (1986) finds that the division is different due to problematic nature of measurement for innovations. Typically, radical innovations might have a higher risk to return ratio compared to incremental innovations according to the typology by Dewar and Dutton (1986). Conversely, Afuah (2003: 15) describes the difference in how innovation impacts organization's capabilities, which are competences and assets of the organization: radical innovations require new knowledge and therefore destroy existing competencies, whereas incremental innovations build on existing knowledge and enhance competences (Afuah, 2003: 15; see also Tushman & Anderson, 1986). Moreover, it follows that the output of radical innovation, such as a new product,

would render existing products obsolete while the output of incremental does not (Afuah, 2003: 15). This does not mean, however, that companies would pursue only one type of innovation, but typically they aim to pursue both (or any) type of innovations should that be possible – nor is it usually feasible to classify the innovation in advance.

Technological knowledge has been a key factor by Dewar and Dutton (1986) in the division between radical and incremental innovations. If the focus is in the technological knowledge, it is possible to distinguish disruptive innovations from radical and incremental innovations as the focus of disruptive innovations are considered to be in the impact, not the process of creating the innovation (Christensen & Raynor, 2003; Christensen et al., 2015). Christensen and Raynor (2003: 101) emphasize that the disruption aims to focus on non-consumption instead of existing markets and gradually catch up with the market. While radical innovations would have a major impact in the market, it is not trying to explicitly address the non-consumption and low-end of the market (Christensen, Raynor & McDonald, 2015). However, it should be stated that disruptive innovations are not in the focus of this thesis as the focus is mostly on product and process innovations rather than addressing the market itself.

The dichotomy between incremental and radical innovations is an important model, but insufficient. For example, it does not explain why new entrants to the market with radical innovations do not systematically outperform incumbent organizations, although the strategic incentives to invest in radical innovations and their organizational capabilities would suggest otherwise (Afuah, 2003: 16). Abernathy and Clark (1985) provides a model to explain this by dividing capabilities into technological and market capabilities, which categorizes innovations into regular, niche, revolutionary and architectural innovations. This model illustrates that the incumbent company could outperform the new entrants in radical innovations as well due to their higher capabilities in market understanding (Afuah, 2003: 18). Subsequently, Henderson-Clark model (Henderson & Clark, 1990) develops this model further in order to understand a taxing question: why existing companies sometimes have so much problems in incremental innovations (Afuah, 2003: 18). Henderson and Clark (1990) unbundled the technological knowledge into architectural and modular knowledge and realized that companies might misinterpret incremental innovations into architectural innovations, which is something the company might not have been prepared for.

Dynamic models look into the development of innovations with more longitudinal view (Afuah, 2003: 33). While dynamic models have their drawbacks in that they do not classify different forms of innovations, they show better the lifecycle of innovation generation, and therefore are very applicable in assessing real, practical cases. Abernathy and Utterback (1978: 42) proposes that the evolution of technology consists of different phases for a particular technology from fluid phase to specific phase through transitional phase. In the fluid phase, there are more technological innovations in products, which gradually shift towards emphasizing more process innovations in the transitional phase, and eventually to incremental product feature innovations in the specific phase (Afuah, 2003: 33).

While, for example, Utterback-Abernathy model suggests that there is level of technological development when the development slows down and only minor, incremental innovations can be made, Foster (1987) provides a framework in which this cycle can occur. This S Curve model suggests that cycle tends to repeat itself and shows that a particular technology has different stages of innovation and cannot be classified strictly as incremental or radical (Afuah, 2003: 35).

By combining different elements from static and dynamic models, we can gradually gain better understanding of the different approaches organizations might have towards innovations. The models provide a framework for assessing reasons for operational choices to facilitate innovation in different contexts. In order to understand the impact of innovations in an organization better, next I turn to the role of knowledge in innovations.

2.2.2. Role of Knowledge in Innovations

As suggested above in chapter 2.2, innovation requires new knowledge. Although Drucker (2002: 8) defines new knowledge as something of a breakthrough nature, this strict approach is not followed in this thesis. Instead, new knowledge is merely something that is new to existing products or processes, as proposed by e.g. Afuah (2003: 4; see footnote 5). Generating new knowledge or applying new knowledge in a new fashion, therefore, is in the core of innovations and in the core of the innovation value chain as illustrated by Afuah (2003: 42). The knowledge that is required for creating innovations can be either technological or market knowledge (Afuah, 2003: 13), and it can be divided into explicit and tacit knowledge (e.g. Afuah, 2003: 26; Powell & Grodal, 2005: 75; Foray, 1997). Explicit knowledge is something that is codified in some ways, such as in instruction manuals or

other forms of information distribution, whereas tacit knowledge does not have such codification (Powell & Grodal, 2005: 75; Nonaka & Takeuchi, 1995; Nonaka, 2007).

New knowledge is acquired through some form of learning. Learning can occur through either explorative or exploitative learning (e.g. March, 1991). Lee (2010) found that learning capability of a company and the amount of technological knowledge seems to have a positive correlation to the firm's growth. The study showed that the pattern of growth is primarily determined by investments in R&D or by the ability to enhance technological competencies. These two determinants are assets and competences of the company, which form the capabilities of the company. According to Afuah (2003: 57), "technological and market knowledge are the bedrock of capabilities". Shipton et al. (2006) also found that especially exploratory learning promotes innovation creation in organizations.

Therefore, it is important to be able to transfer the knowledge effectively within an organization to perform innovation activities. According to Abou-Zeid and Cheng (2004), tacit knowledge is utilized more in the knowledge creation whereas explicit knowledge is used in knowledge utilization. Therefore, making tacit knowledge explicit enables sharing this knowledge (Jain, 2014: 52). Knowledge, and therefore innovations, have to be transferred also across different organizational functions (Afuah, 2003: 75).

There are two aspects of knowledge-transfer process influencing innovation processes that have been identified in research (Powell & Grodal, 2005: 74). The first form of knowledge sharing is that the exchange of information happening through different networks increases the utilization of complementary assets, which in turn increases innovative behavior (Mowery, Oxley & Silverman, 1996). Knowledge transfer in networks happens through formal ties and informal ties (Powell & Grodal, 2005) and structural holes between different actors impact the effects of innovation (e.g. Ahuja, 2000). In the network of different actors, those in the central positions are typically the ones where the innovations tend to emerge (e.g. Tsai, 2001). What Mowery, Oxley and Silverman (1996) highlighted is that being in the same network with different experts enhances the knowledge development and thus the idea generation and innovation implementation. Another feature is the recombination of information in novel ways. When there are larger networks that can be effectively utilized, there is a higher chance that a beneficial combination of information occurs (e.g. Fleming & Sorenson, 2001: 1037). These networks can change knowledge from tacit

knowledge to explicit knowledge, which in turn decreases the costs of knowledge transfer (Powell & Grodal, 2005: 76).

Whether technological solutions to share knowledge through knowledge management system enhances innovation or not remains to be slightly questionable. While, for example, Nonaka and Takeuchi (1995) found that different information dissemination practices enhance innovation, this was generally not the case with Darroch and McNaughton's (2002: 219) study. However, they noted that the most important practice related to knowledge dissemination for enhancing innovation was indeed using technology for sharing information. While there are some indications that motivating people to use knowledge management systems would not increase the effect in knowledge sharing (King & Marks Jr., 2008), based on Darroch and McNaughton's (2002) study it seems that knowledge management systems are important for innovations.

The innovation effectiveness was studied in the Minnesota Innovation survey and the frequency of communication within the organization was positively associated with the effectiveness of innovations (Angle, 2000: 145). This was illustrated, for example, by measuring goal clarity. Moreover, this indicates generally that knowledge sharing within an organization has a positive impact to innovations (Jain, 2016: 209). Effective innovation creation and its components will generally be addressed in the next chapter.

2.2.3. Effective Innovation Processes

Afuah (2003:42) presents a comprehensive value chain model of how innovations can create value to an organization through utilization of capabilities with knowledge. In order to create successful innovations, the processes for generating innovations have to be effective, because it is not possible to control the success of innovation but only the odds of it (Angle & Van de Ven, 2000: 693).

There are different factors that have been identified to contribute positively to innovation (Darroch & McNaughton, 2002). These are:

(1) sensitivity to market changes,
(2) science and technology human capital,
(3) partnership with international customers,
(4) the use of technology to distribute knowledge and information,
(5) ability to respond to technological development, and
(6) flexibility and opportunism.

All of these relate closely to either knowledge acquisition and learning, or knowledge transfer. For example, increasing market knowledge and receiving information about the market from competitors, news sources or research increases the capabilities to recognize change. Naturally, this increases the technological knowledge as well of the people involved in the development regardless whether they are from the R&D department or, for example, sales and marketing. Efficient technology management (4) and utilization (5) have been found to predict organizational innovation (e.g. Shipton et al. 2006: 20). Flexibility and opportunism directly relate to the capability of recognizing entrepreneurial opportunities as will be further described in chapter 2.3. Darroch and McNaughton (2002) also notes that well-developed and strict financial reporting, on the other, have limiting effect in innovation activities although it otherwise signals a more developed a company.

The quantity and quality of organizational knowledge in innovation in both explicit and tacit forms of knowledge is very important in making the innovation processes effective (Abou-Zeid & Cheng, 2004: 10). Moreover, successful innovations require knowledge manipulation activities to transform tacit knowledge into explicit knowledge. These include socialization, externalization, combination and internalization of knowledge (Abou-Zeid & Cheng, 2004: 8). Both Abou-Zeid and Cheng (2004) and Darroch and McNaughton (2002) indicate the importance of knowledge sharing and development activities in effective innovations.

2.3. Corporate Entrepreneurship

Innovation creation is usually closely linked to entrepreneurial activities (e.g. Zahra, 1991; Afuah, 2003). This means that in order to generate innovation, some form of entrepreneurial activity is expected to occur in an organization. While there have been multiple labels used to research the phenomenon especially in the context of intracompany (Zahra, Jennings & Kuratko, 1999: 51), I refrain from more in-depth discussion of the terms themselves but instead use mainly *corporate entrepreneurship* altogether. If there is a need to use other terms, such as intrapreneurship, these terms will be used interchangeably with corporate entrepreneurship in this study.

But what is an entrepreneur? Bruyat and Julien (2000) have identified two trends in how to view an entrepreneur. First of all, the entrepreneur can be a person, who is able to create and develop anything that is new, be that a business model or a product, or anything else. Another trend is viewing entrepreneur as some sort of an exceptional innovator (Bruyat &

Julien, 2000). Both of these trends of viewing an entrepreneur include an element of innovation in them.

There are many different ways of defining entrepreneurs or entrepreneurship as well: an entrepreneur is not just someone who is employing himself as might be conventionally be thought. As Bull and Willard (1993: 185) puts it, there has been an obsession of finding a suitable definition for an entrepreneur, which has misdirected the research away from practical use of entrepreneurship studies at least historically. Consequently, Bull and Willard (1993: 186) provides a Schumpeterian definition for entrepreneur: "(a)n entrepreneur is the person who carries out new combinations, causing discontinuity" (from Schumpeter, 1936). The definition follows the first identified trend by Bruyat and Julien (2000). Peverelli and Song (2012: 12) classify different definitions based on their different approach, such as economic, trait, or social identity approach. The economic approach is the 'classic' approach, which defines entrepreneur as someone who is not a wage-earner but earns his or her income through other different factors. This view has been discussed already by Richard Cantillon in his 'Essai sur la Nature du Commerce en Général' from 1755 (Rothbard, 1995). The trait approach (e.g. Schumpeter, 1934; Kirzner, 1983) focuses on the particular traits that make an entrepreneur. According to social identity approach, the entrepreneur is defined by the surrounding society as someone who carries out entrepreneurial activities (Peverelli & Song, 2012: 18).

It is also possible to focus on the process of entrepreneurial activities instead of the individuals that carry out the process. The process can be seen to have four stages: recognizing opportunities, acting on the opportunities and managing the process, reassessing the need for change, and finally reflecting on oneself and evaluating the situation critically (Cunningham & Lischeron, 1991). While the multiplicity of different definitions of entrepreneurship have made it difficult to create a conceptual framework, Shane and Venkataraman (2000) have tried to create one for entrepreneurship. According to them, entrepreneurship contains three elements, which are the existence of opportunities, discovering the opportunities and making a decision on which opportunities an entrepreneur should act on (Shane & Venkataraman, 2000).

Davidsson (2015) further developed the framework by assessing more clearly what entrepreneurial opportunities are. In order to understand what entrepreneurial opportunities are, one has to look at external enablers, new venture ideas and opportunity confidence

(Davidsson, 2015: 684). External enablers are such circumstances that can play an important role in eliciting entrepreneurial behavior. New venture ideas are imaginary combinations of products or services that could be provided to potential market. Opportunity confidence is subjective evaluation by the person who has seen the opportunity for a new idea (Davidsson, 2015: 685).

As it is difficult to define entrepreneurship, it is naturally difficult to define corporate entrepreneurship. However, following the Schumpeterian definition, it is possible to define corporate entrepreneur as a person who carries out entrepreneurial activities within an organizational context. Kuratko et al. (2014: 39) finds that there are five dimensions that determine the conduciveness of the organization's environment to corporate entrepreneurship. The dimensions are (1) the support from top management, (2) the autonomy of workers, (3) rewards and incentives, (4) available time, and (5) the flexibility of organizational boundaries. These are required especially for individuals to perceive the organization as innovation-friendly environment.

2.4. HRM Practices

"Methods or techniques found to be the most effective and practical means in achieving an objective […] while making the optimum use of the firm's resources."
- definition of best management practice by BusinessDictionary.com

This definition for best management practices by a popular website BusinessDictionary.com captures the essence of what managerial work in a company is about: optimizing resources for achieving goals with effectivity and efficiency. In order for a company to respond to the changing needs from the market, it has to be able to generate innovations. Therefore, one of the main objectives for managers in a company would be to enable the employees to be innovative and to facilitate entrepreneurial behavior to foster innovation-generation and implementation.

While it is impossible to tell employees to be innovative or entrepreneurial, there are ways to impact on this indirectly through different management practices. There are different types of management practices, but most of researched management practices relate either to HRM (e.g. Huselid, 1995) or quality management, such as total quality management and business process management (e.g. Flynn, Schroeder & Sakakibara, 1995). Naturally for innovation, also management practices related to knowledge management are important since the development of innovations require the use of explicit or tacit knowledge and

typically the innovator needs substantial amount of either or both (Darroch & McNaughton, 2002).

It is essential for innovative company to have committed, creative and motivated employees to produce successful innovations (Jain, 2016: 210). There is empirical evidence that HRM practices enhance and encourage innovation within organizations (Jiménez-Jiménez & Sanz-Valle, 2008). Moreover, there are many studies that have been researching the impact of HRM practices to the company performance (see e.g. Subramony, 2009; Rauch & Hatak, 2016). Rauch and Hatak (2016) studied in their meta-analysis whether different HR-enhancing management practice bundles in SMEs support the performance of the company. The studied bundles were skill-enhancing, motivation-enhancing and empowerment-enhancing practices. These same bundles were utilized by Subramony (2009) as well, although in a different context of large companies.

Organizations can develop their innovation capabilities systematically through HRM practices especially by improving the chances of creating something new in the organization. Subramony (2009) found that HR-enhancing management practices can be viewed as individual practices or bundles of different, individual practices focusing on a particular outcome as described above. Similarly, Hope Hailey (2001: 1139) found that there has to be a holistic approach in HRM practices in order for them to be conducive to innovation. Consequently, Laursen and Foss (2003) found empirical evidence that supports the notion that HRM systems tend to enhance more innovation than individual HRM practices. In this study of 1,900 Danish companies, Laursen and Foss (2003) were able to show that while individual HRM practices could have positive impact on innovations, the impact would be relatively stronger if the companies used a 'package' of HRM practices that are complementary to each other, such as planned job rotation and interdisciplinary workgroups. However, they failed to identify the reason for this.

There are other researches as well who have found support for focusing on bundles of practices as they create greater effects than individual practices (e.g. Becker & Gerhart, 1996; Delery, 1998). The findings from Laursen and Foss (2003) support this notion, and it seems like having diverse management practices provides stronger effect than the sum of individual practices. Without going too much deeper in the reasons for this, there is a theoretical support for it based on systems theory, according to which various features can create larger effects when combined compared to individual features themselves (Rock &

Palmer, 1990) as long as these features are complementarities, such as in different HRM practice bundles (Subramony, 2009).

Shipton et al. (2006: 24) made a suggestion based on their research on how HRM practices could enable organizational innovations that empowerment enhancing HRM practices and practices that promote learning should enhance organizational innovations. Consequently, Rauch and Hatak (2016) found that particularly empowerment enhancing HRM practices should support innovation activities and innovative behavior, since they typically support experimenting and finding new opportunities, which, in turn, are entrepreneurial qualities (Shane & Venkataraman, 2000; Davidsson, 2015). In SMEs, the HR-enhancing management practices have been found to be more beneficial in developing innovative capabilities in smaller companies compared to larger companies (Rauch & Hatak, 2016), but there are some indications of positive correlation in larger companies as well (Subramony, 2009), although it has not been studied in greater detail. However, the advantage of larger organizations in general is the ability to standardize processes better, including innovation processes.

So, what are empowerment enhancing HRM practices? They are defined as something that typically decentralize decision making in an organization (Subramony, 2009). These practices are, for example, using self-managed and autonomous teams and having employees to participate in decision making (Subramony, 2009: 746). Decentralization of decision making can happen either formally or informally and it can reduce the organizational hierarchy by utilizing autonomous teams of self-managed individuals while enabling strong employee-participation in the decision making and encouraging them to voice their opinions to their superiors (Mathieu, Gilson & Ruddy, 2006; Wood & Wall, 2007). For example, Mathieu, Gilson and Ruddy (2006) found that structural empowerment efforts, such as allocating decision making to autonomous teams, have beneficial effects on the psychology of the employees and enhance team effectiveness.

Additionally, it has been found that empowerment enhancing HRM practices can increase creative problem-solving capabilities (Alge, Ballinger, Tangirala & Oakley, 2006), enhance engagement in process improvements (Kirkman, Rosen, Tesluk & Gibson, 2004) and increase flexibility in finding better solutions for customers (Peccei & Rosenthal, 2001). Kirkman et al. (2004), for instance, found that focusing on team building exercises to create collective sense of purpose and direction, and therefore increase the sense of

empowerment through these, enhanced the learning effect in mostly virtually working teams. Subramony (2009) suggests as well that empowerment enhancing HRM practices could help employees to identify and recommend improvements in products, services and processes. This would make sense as such HRM practices could, for instance, enable creating safe environment for employees to encourage experimentation and to establish some forms of routines for implementing innovations, which reduce uncertainties that are associated with innovations in general (Amabile, 1988; McGinnis & Ackelsberg, 1983).

As described in chapter 2.3, corporate entrepreneurship contains identification of opportunities, discovering the opportunities and the ability to make decisions (Shane & Venkataraman, 2000). Therefore, empowerment enhancing HRM practices should be able to support employees' ability to find these opportunities. For example, active contacts with different stakeholders and solution-finding in collaboration with customers can indeed be the external enablers and creative problem-solving capabilities can help identifying new venture ideas, which are the factors related to finding or identifying entrepreneurial opportunities as described by Davidsson (2015). Moreover, these increases in organizational capabilities also should develop organizations towards the entrepreneurial environmental dimensions described by Kuratko et al. (2014). Utilizing empowerment enhancing HRM practices definitely should include at least some support from the top management, as the aim is to increase the autonomy of the workers and developing self-managing individuals would blur some organizational boundaries. Moreover, autonomous teams and individuals are better capable of planning the amount of time used for the development. The only remaining dimension from Kuratko et al. (2014), rewards and incentives, is addressed by motivation enhancing HRM practices (Subramony, 2009: 746).

According to Subramony (2009: 746, Table 1: The Content of HRM Bundles), empowerment enhancing bundles of HRM practices are following: employee involvement in influencing work process/outcomes, formal grievance procedure and complaint resolution systems, job enrichment (skill flexibility, job variety, responsibility), self-managed or autonomous work groups, employee participation in decision making and systems to encourage feedback from employees. Naturally, there could be differently defined HRM bundles as well for empowerment enhancement. In next chapter, I will turn my attention to the innovation context.

2.5. The Impact Business Systems in Innovation

National institutions, both economic and political institutions, are key drivers and factors for the development of national economies (Acemoglu, Johnson & Robinson, 2005: 392). These institutions, such as regulatory framework or property rights, ultimately determine over time how the economic opportunities and society's rules develop (Acemoglu et al., 2005: 389). Therefore, each organization (or part thereof) originates and operates in a somewhat distinctive operational environment, which can be called a business system. Institutional context is seen as a key to understand the organization (Morgan, 2007: 128). In different business systems, organizations' capacities in developing innovations are very different (Whitley, 2000: 865). This is why it is necessary to address the different institutions by addressing the business systems and cultures and how they might impact in the ways the companies approach facilitation of innovation. It should be noted, however, that since the studies of economic systems, cultures and business systems are so vast that there is no way to have any sort of comprehensive view on these issues but I will focus on perhaps the most critical pieces in the literature.

The main idea of national business systems is that different institutions develop different kinds of rules for economic activity (Morgan, 2007: 129). According to Morgan (2007: 130), Richard Whitley (especially in Whitley 1992a and 1992b) has contributed significantly to the understanding of national business systems and their impact. Although there is no general and unified theory of business systems (Witt et al., 2018: 10), I will rely on Whitley's systematization as it has been created especially Western and Asian countries in mind, which are in the partial focus of this study as well.

Whitley has two main themes in his research on business systems: corporate governance, which refers to the relationship between owners and managers, and the link between management and the nature of the workplace organization. In understanding the impact of business system better, there are some key characteristics that have to be identified: institutional environment of modern economies and the structure of modern organizational forms (Morgan, 2007: 131). The idea by Whitley was that one should identify whether particular institutional and organizational features are present simultaneously and thus understand institutional impact to the organization.

Two major characteristics of market economy that allow us to differentiate different economic systems are the extent to which market coordination is institutionalized and what is

the dominant mode of such coordination (Whitley, 2000: 857). These two dimensions, basically the level of ownership and different alliance forms of coordination, essentially determine what kind of innovation strategies different organizations might pursue. Moreover, Whitley (2000) proposes five different dimensions for how different innovation strategies in different business systems can become institutionalized. These innovation strategies then can occur in six types of business systems, which are fragmented, coordinated industrial district, compartmentalized, collaborative, state organized and highly coordinated business systems (Whitley, 2000: 858). The business systems determine, for example, how risk and uncertainty are managed, how flexible or standardized organizational processes typically are and how involved individual employees are in the development of the company (Whitley, 2000: 864). All of these play a major role in innovation facilitation and thus can explain what kinds of patterns of innovation emerge.

In order to understand how the business system is connected to innovations, we need to distinguish between innovations that companies would want to and those that the companies are able to develop (Whitley, 2000: 865). According to Whitley (2000: 865), the main characteristics of different business systems and their innovation strategies are:

1. level of uncertainty (accepted) in developing innovations;
2. flexibility and ability to respond to user demands, which leads to a degree of differentiation in the market;
3. organization's capacities for developing radical innovations that threaten current organizational competences;
4. the extent to which the organization focuses on innovations that tend to either enhance or threaten their current capabilities; and
5. ability to generate, acquire and use different kinds of knowledge from different kinds of sources and how these are utilized in the innovation development.

Based on these characteristics, Whitley (2000: 872) designs five different innovation strategies: dependent, craft-based responsive, generic, complex and risky, and transformative. The characteristics of different innovation strategies (or innovations) can be seen in Table 1.

Besides characterizing different innovation strategies, Whitley (2000: 874) connects the different innovation strategies to business system types. Dependent innovation strategies are typically followed in fragmented business systems because there is a low institutional

trust and the focus is typically in adopting to rapid changes in the market and developing opportunistic strategies. Craft-based responsive innovation strategies usually emerge in co-ordinated industrial district business systems as there is usually very close collaboration with different alliances, which are then utilized, for instance, to set standards and receive financing. High degree of standardization and mass-production coupled with strong market control and hierarchical organizational structure of compartmentalized and, to some extent, state-organized business systems typically generate generic innovation strategies (Whitley, 2000: 875).

Table 1: Characteristics of different types of innovation strategy

Characteristics	Dependent	Craft-based responsive	Generic	Complex & risky	Trans-formative
Technical and user uncertainty	Low	Some	Limited	Considerable	High
Dedicated and differentiated product qualities	Considerable	Considerable	Low	Considerable	Varies
Based on current organizational competences	Low	Considerable	Limited	Considerable	Low
Reliance on formal codified knowledge	Low	Limited	Considerable	Considerable	High
Reliance on complex and varied knowledge base	Low	Some	Limited	Considerable	High

Adopted from Whitley (2000: 872), where the author assesses different characteristics of different innovation strategies with a non-numerical scale from low to high. In between, there are in order: limited, some, and considerable. Additionally, there is a sixth measure 'varies' to describe that a particular value tends to change depending on the situation.

Complex and risky innovation strategies are needed when there is a need for relying more on different sources of knowledge while having standardized resources and organizational routines. Moreover, it is important to develop collaboration with different stakeholders to enhance the knowledge acquisition and utilization as there is a need for highly specialized knowledge. Complex and risky innovation strategies emerge both in collaborative and highly coordinated business systems although Whitley (2000: 877) notes that organizational flexibility in these two business systems differ significantly and therefore lead to different kinds of innovations. For example, in collaborative business system there are fewer possibilities to develop organizational competencies radically as this puts a threat for changing personnel more, which is typically not so flexible in this business system due to high influence by outside forces, such as labor unions. Conversely, highly coordinated business systems are less bound by these forces and therefore can better develop innovations that transcend existing business boundaries (Whitley, 2000: 878).

Transformative innovations threaten existing competencies of the organization, they require different types and sources of knowledge and typically create a new market. This is why transformative innovation strategies require significant market power, and sometimes even state support (Whitley, 2000: 878). While transformative innovations need collaboration between different stakeholders, it should not be controlled as in highly coordinated business systems. Free flow of resources and knowledge indicate a possibility for having this type of innovation strategy in compartmentalized business system, but it might be possible in collaborative business systems as well. As Whitley (2000: 879) points out, transformative innovation strategies can occur in varied ways in different business systems.

While Whitley's (2000) framework is very useful, it is still important to address the development of the business systems. For example, it is clear that over the past two decades, especially China has been developing rapidly and thus the existing business systems might change. This will be addressed more in chapter 2.7 after the next chapter focusing on a key contextual part of this study: national culture.

2.6. Impact of National Culture

Hofstede's seminal work in 1980 paved the way for better understanding cultural differences between nations and how they impact in the behavior of organizations. He introduced a concept called the dimensions of culture, based on which it was possible to measure differences in cultural norms and behavior. The original research on culture was conducted with IBM managers, and it identified four different dimensions for culture: power distance, individualism and collectivism, masculinity and femininity, and uncertainty avoidance (Hofstede, 1980). Gradually, by 2010, Hofstede added two more dimensions to the framework: long-term versus short-term orientation, and indulgence versus self-restraint.

Power distance describes the dependence relationship between subordinates and bosses, and the lower it is, the less dependent the subordinates are from their supervisors (Hofstede, Hofstede & Minkov, 2010: 61). Individualism and collectivism refer to the degree the individuals focus primarily on their immediate families and themselves, or whether they feel belonging to larger in-groups (Hofstede, 1984: 83). In more masculine societies, there is a stronger preference for assertiveness and material success whereas feminine societies the preference is in relationships and the quality of life (Hofstede, 1984: 84). Uncertainty avoidance measures the level of uncertainty the individuals are able to bear

(Hofstede, 1984: 83). In long-term orientated cultures the focus is not in the near future, for example annual or quarterly profits, but instead further in the future, such as in ten years. Moreover, these cultures tend to put more emphasis on long-term relationship-building instead of changing the relationships based on current needs (Hofstede, Hofstede & Minkov, 2010: 251). Finally, the sixth dimension compares whether the individual is primarily more focused on own happiness or objective well-being of oneself, such as how high the individual ranks the importance of leisure (Hofstede, Hofstede & Minkov, 2010: 291).

There are also other measures used to compare different cultures besides Hofstede's cultural dimensions, although it is arguably perhaps the most influential (Bird & Mendenhall, 2016: 4). Different models have emerged typically based on Hofstede's model, but slightly deviating from that (Bird & Mendenhall, 2016: 4), such as cultural models of Trompenaars and Hampden-Turner (1998) and the GLOBE study (House, Javidan, Hanges & Dorfman, 2002). The researchers in GLOBE project studied, for example, power distance and uncertainty avoidance like Hofstede, but they also divided the discussion on individualism and collectivism into institutional and in-group collectivism (House et al., 2002).

2.7. Theoretical Framework for this Research

As mentioned above in chapter 2.1, it is important to address different aspects of innovation, such as the role of corporate entrepreneurship, management practices and the business system. The purpose of this research is to understand better how different approaches might lead to similar or different outcomes in Chinese and Finnish companies. The fundamental questions for every company are 'how can our company address the market need for change?' and 'how can we compete and develop competitive advantages in the long run?' Because change itself means something that changes from existing to something that does not exist at the very moment, adapting to change requires the creation of something new. Therefore, the need for innovation is apparent.

Effective production of innovations requires the presence of six factors: (1) sensitivity to market changes, (2) science and technology human capital, (3) partnership with international customers, (4) use of technology to distribute knowledge and information, (5) ability to respond to technological development, and (6) flexibility and opportunism (Darroch & McNaughton, 2002). There are two ways an organization could impact these: HRM practices that promote corporate entrepreneurship and learning, especially empowerment enhancing practices, and knowledge management practices. These are highly correlated, as

many HRM practices can encourage, for example, knowledge acquisition and the processes in which the knowledge can be transferred intra-company or outside the organization. However, the purpose in this study is to assess HRM practices and knowledge management practices separately as long as it is practical for the purpose of uncovering underlying theories.

For particular HRM practices, Shipton et al. (2006) has found that HRM practices that promote exploratory learning, create and induce sophisticated procedures for innovation development, offer extensive training and promote teamwork, all predict innovations in an organization. These, coupled with empowerment enhancing HRM practices that increase autonomy of individuals and teams and add job enrichment, as described by Subramony (2009), will constitute something that will be called *innovation-enhancing management practices* for the purposes of this research. These innovation-enhancing management practices are defined only for the purposes of combining Shipton et al.'s (2006) and Subramony's (2009) to a cohesive framework for addressing management practices. Therefore, innovation-enhancing management practice groups are management practices that:

a) promote learning, especially exploratory learning
b) offer extensive training
c) help creating efficient procedures
d) empower people by enabling autonomy in the work and decision making
e) promote teamwork

For knowledge management practices, I will be focusing on practices and systems that promote particularly knowledge transfer as knowledge acquisition is covered especially by the practice groups a and b in innovation-enhancing management practices. I will also consider the transformation of tacit knowledge into explicit knowledge as a form of knowledge transfer as suggested by, for example, Powell and Grodal (2005).

Hence, the question is whether we can find extensive innovation-enhancing management practices or knowledge management practices that promote either corporate entrepreneurship or innovation development itself. If these are found, it is possible to assume that the companies are at least trying to provide a response to the market need for change. The fundamental question for this study is whether there are differences in the approaches taken by Chinese and Finnish companies. Therefore, by studying different companies in both

countries it is possible to assess whether the approach towards these both are expected based on the business systems and the innovation strategies that generally emerge in such business systems.

According to Whitley (2000), because there are significant differences in Chinese and Finnish business systems, it is expected that the chosen innovation strategies are different in Chinese and Finnish companies. Whitley (2000: 860 and 863) describes China as being a fragmented business system and Finland being collaborative business systems. Fragmented business system emerges when there is low institutional trust and typically low ownership to production lines, and the coordination between different industry sectors is relatively short term and *ad hoc*. In a fragmented business system and with presumably dependent innovation strategies, therefore, Chinese companies must be very reactive to market as there is never a guarantee that the market situation is easily predictable. This forces the companies to be quick to answer new customer needs with well-known technical approaches in order to keep the market position. Chinese companies should have a considerable amount of dedicated and differentiated product qualities so that they can be fast in market turns. The quick and unpredictable market also makes it difficult to rely on existing organizational competencies and knowledge utilization as there is no guarantee that the current competencies are sufficient in near future. It is also possible to expect that Finnish companies have more complex and risky innovation strategies due to the high level of collaboration among different stakeholders and the sharing of risk between the stakeholders. Collaborative business systems have state encouraging collaboration between different actors, such as companies, banks, and labor markets. There is higher level of trust in the society and the state provides a lot of economic and social support to enable companies and individuals to operate. However, this leads to less dynamic market and less reactive companies, as it might be more difficult to change the course of a company radically in short term. Consequently, it is reasonable to assume that Finnish companies are not as responsive to the market needs as Chinese companies are.

As China has been developing very rapidly especially economically, it is important to address whether the characterization by Whitley (2000) could still be accurate. Witt et al. (2018) studied the similarity of business systems of 61 countries or economies. Their research shows that the Gowerian dissimilarity matrix value between Finland and China based on multivariable analysis is 0.54, which indicates very dissimilar business systems (Witt et al., 2018: 15). Moreover, based on the cluster-analysis, Witt et al. (2018) classify

Finland as a coordinated market economy and China as an emerging economy. The Finnish classification is similar to Whitley's (2000). Whether the Chinese business system still would fall underneath Whitley's (2000) classification, one has to address the two dimensions proposed in the study: level of ownership and different alliance forms of coordination. As Witt et al. (2018: 26) suggests, the emerging economies tend to have strong family and state ownership of firms, weak investor protection, decision making more from top to down and the high importance on relationship coupled with, for example, suppressed unions. All these are similar characterizations than what Whitley (2000) uses to fragmented business systems. Moreover, while Redding and Witt (2009) describe the Chinese business system as developing towards a state-organized South Korean one but would probably continue developing towards a somewhat unique system, I can assume that Whitley's (2000) classification still holds true.

Hofstede's cultural differences between Chinese and Finnish cultures are radically different as can be seen in Figure 1 (Hofstede, Hofstede & Minkov, 2010). Power distance in China is very large, which indicates that there is a high degree of organizational hierarchy, which is considered very acceptable. The Finns, on the other hand, expect more equality in different circumstances. Individualism level in Finland is rather high, whereas in China it is very low. Based on this, it is possible to assume that the Finnish companies would allow more autonomy in general compared to the Chinese companies. The Chinese society most likely will value more extrinsic motivation and training due the more masculine culture whereas Finnish companies probably value more other means of compensation, such as job fulfillment and the joy of learning and explorative learning. Chinese uncertainty avoidance indicates that the Chinese are less concerned about the future than Finns, which coincides well with the business system. Long term orientation in China is significantly high, which would mean that they focus on long term relationship building (*guanxi*) (Hofstede, Hofstede & Minkov, 2010: 251), whereas the Finns have more tendency to focus on shorter term gains and *ad hoc* relationships. The sixth dimension indicates that the Finns are probably more likely to emphasize freedom and work-life balance than the Chinese, who would highlight the importance of working hard.

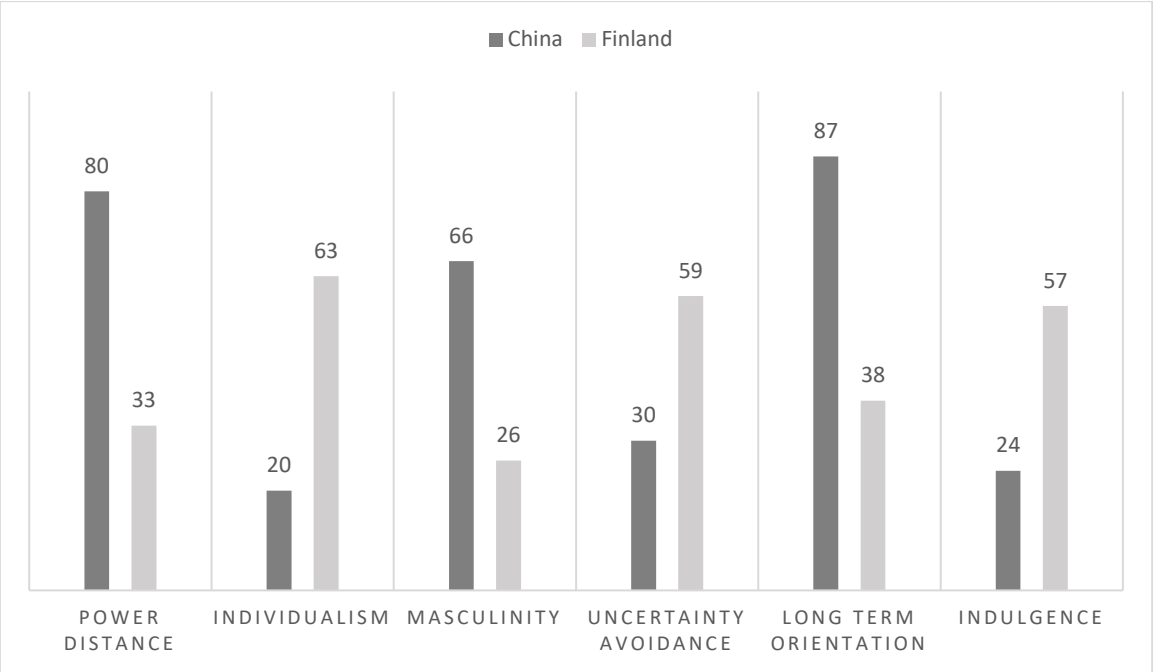

Figure 1: *Comparison of Hofstede's cultural dimensions between China and Finland. The values are between 0 and 100. Figure based on the findings of Hofstede, Hofstede and Minkov (2010).*

It is possible to hypothesize that in Chinese companies the selected innovation strategy is a dependent type and the Finnish companies are either generic or complex and risky types. However, it is expected that due to rapid economic development in China there should also be development especially in the economic institutions, which could imply variations in innovation strategies. Consequently, this would make Chinese approaches more fragmented. Moreover, the cultural differences suggest that the Chinese would have stricter processes and decision making, focus less on motivating people through soft management practices such as providing freedom, and focus on formal training compared to explorative learning in Finnish culture.

Innovation-enhancing management practice groups are used in this study only to compare the emerging findings to the theory, while the framework is not used to create the eventual theory itself.

3. Methodology

3.1. Overview

The main research question proposed in chapter 1.2 is comparative as the purpose is to compare two countries and business systems, but there are also two additional descriptive research questions. In order to understand the differences, it is first necessary to understand what is happening in the companies. For this, I designed and planned a study to uncover a theory of the differences through case study analysis as proposed, for example, by Eisenhardt (1989). I will first discuss about the background and the reasons for this methodology. After this I will discuss about the data collection, namely the interviews, and discuss about what has emerged from the data in each country. Finally, before moving to the next chapter for the analysis, I will try to draw some preliminary thoughts about similarities and differences for the data analysis.

3.2. Grounded Theory Building Through Case-Studies

As mentioned above, the main purpose for this thesis is to study differences in management practices in two different business systems and culture, namely Chinese and Finnish. I am going to use a comparative design as the research is cross-cultural (Bryman & Bell, 2007) and furthermore utilize case study design to a limited extent. Accordingly, these two research designs are overlapping since there is no individual design category that could be utilized for this study. My main means of research is to use several different cases from both countries.

The main research method for the questions at hand is a flexible application of grounded theory building through induction from case studies, as suggested by, for instance, Eisenhardt (1989). Similarly, researching different social constructs requires a rigorous approach to the data collection and analysis methodology to enable theory building (e.g. Gioia, Corley & Hamilton, 2013). The purpose of this Gioia methodology is to recognize that the world is socially constructed, and the researcher must try to understand the meaning of experiences to the people and then theorizing about those to develop a high-quality theory (Gehman et al., 2018: 286), although it should be noted that Gioia methodology is typically used in single-case studies (Gehman et al, 2018: 291). While the grounded theory building should not expect any kind of outcome, I believe that grounded theory building is suitable as there might be large deviations from the expected outcomes suggested in chapter 2.7. As Eisenhardt (1989: 548) suggests, induction from case studies and creating a theory based

on those is very suited method when the research area is new or there is a lack of previous, similar studies. To my understanding, there are no studies in which the management practices for better innovation development have been comprehensively researched between different business systems, especially between a Nordic country and China. For researching different business systems, this is rather a narrow topic, which makes the methodology suitable even in such a small research as a master's thesis.

The grounded theory methodology was first introduced by Glaser and Strauss (1967). The purpose of this methodology is to discover insights from a qualitative data, which typically is very heterogeneous (Glaser & Strauss, 2006: 2). The method has a rigorous data processing, which enables the researcher to uncover traits and patterns in the data despite the limited amount of discreet data available. The reason for developing this method has been the identified drawbacks of other sociology methodologies in how facts could be studied, and theories could be tested well (Glaser & Strauss, 2006: 1). Grounded theory research process consists of three main elements: data collection, analysis of the data, and then repeating this process. Williams (2011: 69) has described the method as a constant comparative method.

The main analysis method for grounded theory method is comparative analysis, in which the data is compared between different cases rigorously over the period of research (Glaser & Strauss, 2006: 21). This is similar as in building theory through induction, in which also there is continuous comparison between the data, the method utilized and, gradually, the emerging theory (Eisenhardt, 1989; Gioia, Corley & Hamilton, 2013). Continuous comparison between data, method and theory would require immediate analysis of the data after gathering it (Corbin & Strauss, 1990: 6), because otherwise there would not be sufficient foundation for generating the theory, as it requires constant redesign of the study and revision of the data (Glaser & Strauss, 2006: 101).

For the case study data collection, I conducted semi-structured interviews. This data collection consists of a pre-structured interview protocol, which is presented as Appendix 1. The interview protocol indicates different sections and individual questions for the interviews, although the structure changed slightly over the course of the study. The protocol presented in Appendix 1 is the final version, and minor changes and evolution of the protocol during the study are discussed in chapter 3.3. The reason for semi-structured interviews is the capability to adjust the interview according to the individual interviews, which is needed for

multiple cases and cross-cultural research. Moreover, non-structured interviews would make the data comparison significantly more difficult, and therefore semi-structured interviews would help with the comparability of the data (Bryman & Bell, 2007: 480). This approach and utilization of semi-structured interviews instead of structured or non-structured interviews has been supported by Eisenhardt (1989) as well.

The main analysis method for developing grounded theory is open coding (Corbin & Strauss, 1990: 12). For the open coding, I transcribed the interviews in order to be able to be systematic in the analysis phase. Moreover, transcribing interviews enabled me to become more familiar with the data itself, which is essential in this methodology. The purpose of the transcription is to understand important underlying concepts in each interview, label different concepts and grouping concepts with other, similar concepts, and finally build towards creating different categories and their subcategories for the analysis (Corbin & Strauss, 1990: 12). This will require continuous data analysis and going through the data multiple times as it is possible to miss some concepts in the interviews. Especially it will help me to find both analytic and systematical errors or mistakes in the coding process (Corbin & Strauss, 1990: 13). Such approach is common for thematic analysis, as there is a combination of induction and deduction that might be necessary for uncovering relevant themes in the research data (e.g. Fereday & Muir-Cochrane, 2006; Braun & Clarke, 2008).

During the open coding, I followed the process described by Bryman and Bell (2007: 589). In the first phase of the open coding, the purpose was to become familiar with the data through few systematic rounds of analysis of the data: the most important part in this phase is to begin identifying concepts and patterns that emerge from the data. Categories for different concepts and labels should start to emerge during the final stages of the first phase, which, in turn, would be revisited with the theoretical concepts described in previous chapters. Naturally, this also helped me to get a better understanding what are important concepts in a more holistic way.

The iterative data processing then continued with the second phase of the coding, after no new categories emerged from the data. During this phase the main idea was to start comparing different categories and trying to explore possible relationships between these categories and the concepts within the categories. Some preliminary hypotheses for the analysis were uncovered during this phase, as the purpose was to compare the findings in the categories and their relations among each other to the theoretical background. During the

second phase, it is also important to continue going through the data as at this point it is possible to uncover more missed concepts. Eventually, the aim was to reach some sort of theoretical saturation when there are no more concepts or categories emerging from the data. When the theoretical saturation was achieved, I continued with the analysis of the data.

It was important to pay in mind the gradual formulation of theory for the research questions and not to expect to formulate it at the end of the analysis: as the outcome of it. Instead, the last rounds of interviews were more or less confirming the emerging concepts that had been formulated. If this was not done, it would have been difficult to validate the theory during the data collection. Moreover, this would mean that the data is not sufficient for analysis. However, given the limitations for the possibilities and resources to conduct this research, this might have indeed happened. Should this be the case, it is important to be able to identify some patterns that start to emerge from the data for the theory and subsequently propose additional research for the subject. These will be further discussed in chapter 6.

3.3. Data Collection

3.3.1. The Design of the Interviews

As previously mentioned, the data collection method for the study was semi-structured interview of different cases. In practice, the aim was to conduct several interviews in Chinese and Finnish companies. The interview protocol (Appendix 1) was structured to have five parts: two general parts in the beginning and in the end, and three content parts. During the first and last parts, I mainly focused on the practicalities and formalities.

In the first content part of the interview, the main focus was in questions that concern the company more generally and how the innovation development processes work in the companies. The first questions were designed to be rather open even in the contents to help interviewees to become more familiar with the topic by allowing them to elaborate their thoughts on a more general level. Moreover, the purpose was to gain insights on the company culture to get a better understanding of the context of the interviewed companies.

In the second part, the main focus was more in the individual manager and team level of innovation facilitation. The section consists of questions that try to uncover actions by the individual manager and how he or she might perceive the role of the manager in helping teams to develop innovations. The purpose of these questions was to assess individual

practices that occur in the company but also to gain some insights into the processes of knowledge acquisition and the role of learning in the companies. Moreover, there are questions directly linked to knowledge management, especially knowledge transfer, in this section.

Finally, in the third content part, I focused on the monitoring and measuring of the innovations. The purpose for this section was to assess how the companies approach risk in the development processes and whether they consider the main responsibilities to lie in individual people or the teams or organizational structure. This is important as it has practical implications in the individual behavior and would provide insights into how the employees might feel that they are psychologically empowered in the innovation activities.

The interview length varied based on the available time, but the idea was to have the interviews done in 45 to 90 minutes. While the structure was designed in advance, it was clear from the beginning that the structure might change based on the flow of the interviews, which also would have impact on the length. As the utilized research methodology is quite flexible, however, this was not considered to be an issue. Preferably, the interviews were going to be face to face interviews to enable fluent communication. This was particularly important for Chinese interviewees, as doing interview over the internet would have been difficult due to possible connection problems and the fact that the interviewees either would not be using their native language or that there would be a need for interpreter. Moreover, the interviews of Chinese companies took place before Finnish companies.

For the researched companies, my purpose was to find sufficiently large companies for interviews since these tend to have more standardized processes due the larger need to allocate resources efficiently. This approach would provide better insights into the processes adopted in the companies as opposed to *ad hoc* processes developed and utilized by individual teams or managers. The assumption is that the larger companies follow industry standards better than smaller companies, although this definitely might not be so in every case. Additionally, the companies should be originally either Finnish or Chinese and have preferably research and development functions. While most of the interviewed companies allowed identification, there was one company declining to be identified in the study. Therefore, I decided to keep all of the companies anonymous in this study.

The main criterium for selecting the interviewed companies was based on access to the companies due to practical reasons. While it is important to have companies that are

theoretically relevant, the companies do not have to be comparable in all aspects for the induction of theory from cases (Eisenhardt, 1989: 537). Moreover, it was apparent from the beginning that there might be a need for translations for Chinese interviewees or that the Chinese participants will not be able to use their native language for the interviews. This might have some impacts on the data quality, but it was acknowledged in advance.

3.3.2. Interviewed Chinese Companies

The research trip to China took place in March-April 2019, during which I interviewed five companies. One of the companies was not originally from mainland China, and another one did not have a clear R&D function of its own, but rather was facilitating other companies with their innovation activities. Therefore, I decided to omit these interviews from the data. This left me with three companies that suited the research profile for my thesis. While the number of cases is not high, it was in the range of the original purpose to have 3-5 different cases for the research from each country.

Regardless of the initial need to find similar type and size of companies, this was not achieved due to the lack of access to such companies, as it turned out to be a major obstacle to find suitable Chinese companies. The interviews that are included in the study are from a traditional car parts manufacturer, a smart city technology developer, and an environmental company focused on site remediation and recovery of soil. Basic characteristics of all interviewed companies are presented in Appendix 2.

The first company henceforth will be annotated as OEM Company 1_CN, provides good insights into companies that are numerous in China: original equipment manufacturing serving international customers. OEM Company 1_CN specializes in responding to the needs of a handful of European or American clients. The interviewee from the company was a Vice General Manager of the company, who held a high academic position in a Chinese university as well. The interviewee operates in the company on a strategic level but had been involved with the company for decades and therefore understood well the realities of the business. Moreover, this position allowed the interviewee to be relatively direct in the interview, which increased the reliability of the data. The company is a private company. The interview was held in English, which was not the native language of the interviewee, but the language did not seem to cause any distress or issues with the interviewee. After this interview, I decided to add a question of the employee turnover in the

questionnaire to try to get a better understanding of the probability and intensity of innovations as suggested by Eriksson, Qin and Wang (2014).

The second company henceforth noted as Smart City Company 2_CN, was a smart city technology developer, which provided other products and services as well, such as civil and military radar and sensory technology. The company is a private company. The interview was more formal and included many participants from the company, the main interviewee being an Administrative Director, and the others were a Chief Engineer and another very experienced engineer in the company. Smart City Company 2_CN also wanted to structure the interview a bit differently and submitted written answers to the interview protocol beforehand as there was not so much time for the actual interview. The interview was held in Chinese and there was an interpreter present during the interview. While the interpreter was fluent in English, there might have been some instances in which the interpretation did not provide a full picture of the given answers. Regardless, based on my understanding of Mandarin Chinese, the interpretation was adequate for the purposes of this study. As there were multiple different interviewees with limited time with each, the structure of the interview was slightly different than in other interviews as there was a mandatory need for navigating through the questions in a more liberal fashion instead of following the actual protocol rigorously. This also meant that there was a need to deviate from the questions to some extent in order to probe deeper into some answers. The answers in the interview followed somewhat generally the corporate communiqué and the written answers but they provide a decent picture of what is happening in the company regarding innovation activities.

The third company, henceforth Site Remediation Company 3_CN, is a market-oriented research institute primarily for a massive, state-owned conglomerate. The interviewee was a Chief Expert of Site Remediation and a team leader in the research unit. The interview was relatively casual, and the interviewee provided long and elaborate answers to the questions and asked continuously for clarification if there was a need for that. However, compared to the interviewees in OEM Company 1_CN and Smart City Company 2_CN, the interviewee was not as experienced and long-time employee in the company, which might play a role in the actual implementation of her ideas about the innovation management and whether the corporate standards were as described.

3.3.3. Interviewed Finnish Companies

As previously mentioned, the Finnish interviews took place after the Chinese interviews. I managed to get three industrial manufacturing and publicly listed companies for interviews. All the interviewed companies matched in the research profile and therefore it was possible to use the interview data from each company. Only the first interview was held face to face and the rest were conducted through Google Hangouts. This did not cause any issues as the communication was in Finnish and the connections were working undisturbedly.

The interview with the first company, henceforth Elevator Company 1_FI, was conducted with one of the company's head of a business unit. The interview was held in the company's premises and it was quite casual and straightforward. The interviewee had been involved with innovation process especially in new business development and new kinds of products and services and was therefore ideal for this study. The interview went well but there were some technical difficulties with the interview recording, which is why only a fraction of the transcription is available for the study. However, this was noticed immediately after the interview was conducted and therefore it was possible to write down notes from the interview.

With the second Finnish company, henceforth Cargo Handling Company 2_FI, I interviewed their long-time research team leader, who had a decades long experience in industrial innovations. The interview was done with a Hangouts meeting over the internet, but no issues were detected during the interview and thus the interview went smoothly. The interviewee was very well familiarized with both the general industrial processes for research and development and also with the internal processes used in Cargo Handling Company 2_FI. He was particularly capable of providing deep insights about the development of the processes over time.

In the last interview of the research with the third Finnish company, henceforth Power Equipment Company 3_FI, I interviewed one of their Innovation Managers, whose responsibility was to run teams developing different kinds of innovations. As this was the last interview, I had already become fairly familiarized to many aspects of innovation management and what kind of HRM and knowledge management practices had been in place. In general, the interview was fairly consistent with the previous two interviews although it provided still some new insights. Third interview with rather similar company enabled me

to have significantly better understanding of the common processes and also the attitude towards innovation development in the Finnish industrial companies.

3.4. Data Description

3.4.1. Labelling and Categorizing the Data

As described in chapter 3.2, the research methodology and selected analysis method in grounded theory building requires labeling and categorizing the data. In order to carry out the analysis of the interviews and cases, the extracted data was divided into five different categories for characteristics and labeling that are relevant in the innovation sphere based on the theoretical framework and how the interviews were structured. These will be summarily discussed below on a more general level, and in subsequent chapters there will be short description of the data from Chinese and Finnish companies. Additionally, in chapter 3.5, I will discuss some findings that emerge from the data.

The five selected categories are innovation activities, knowledge management, collaboration, HRM, and culture. The categories for different aspects are considered to be theoretically relevant in innovation activities as suggested in the literature review. However, due to the comprehensive nature of the categories, there is some overlapping within different categories: for example, practices regarding decision making is part of innovation processes and also corporate culture.

Based on the initial categories, the process followed thorough studying of the data. Moreover, some preliminary subcategories were utilized for the process of extracting data from the interviews. These subcategories were formulated mainly for the purposes of having structure in the data refinement stage instead of having clear theoretical standing of utilizing them, but they were structured after the initial understanding of the data. Some subcategories started to emerge from the data during this phase. The data was first investigated on a company level and different themes were identified in each category and their preliminary subcategories. As the data started to open up and some key themes started to arise from it, the labeling process started as rather chaotic (“this from here; this theme is good”). After going through the interview data several times, there were no more additional interesting or relevant information to be gained from the data.

The data was collected in an Excel file with both company level and comparison between different companies. This enabled inspecting and studying the data from two point of views: company and category point of views. With these both approaches, I started to

gradually identify recurring themes and theoretically relevant themes in different companies, which enabled me to start labelling process. At first, I identified some theoretically relevant labels that could occur in the data, and after being immersed in the data, I was able to identify many additional practices that seem to be somewhat relevant at least to the companies.

Eventually, I managed to identify 67 different practices either from theory or the data, complete set of which can be found in Appendix 3. These labels are under different categories and subcategories. The labels describe the approaches, practices, understandings, processes, or any other part related to the innovation activities, but they will be referred to as 'practices'. Some categories, such as knowledge management and HRM, are particularly important to evaluate the innovation-enhancing management practices, but other categories contain elements important to these practices and provide better understanding of the innovation framework in the companies. It should be noted that not all labels were used in any of the companies as some of them were drawn from the theory. This might either indicate the lack of relevant data or theoretical relevance, or that those attributes or practices are not present in any of the companies. The number of unused labels is seven, and they are indicated by bolding in the Appendix 3.

Subsequently, during and after the labelling phase, the five selected categories were further divided into 15 subcategories. The subcategories were formulated through comparison between the interview data and different theories. Furthermore, the subcategories were created to identify main themes in the data. While they were in some respects similar to the preliminary subcategories, I aimed to identify them separately from the emerging practices. The division of the subcategories and the number of different labels in each of the subcategory are indicated in Table 2. Similarly, as in labels, the subcategories are overlapping to some extent as it is impossible to define accurate categories for many holistic and overarching labels. However, this lack of clarity has been mitigated as well as has been seen possible.

In the innovation activities category, the subcategories are innovation definition, innovation processes and opportunism. Innovation definition subcategory's purpose is to illustrate how the companies perceive innovation, what are the outcomes of innovation processes and what are some key characteristics of innovation. Innovation processes subcategory answers to the question of "how to innovate", and typically contains the attributes that can be

used to describe the innovation or R&D process. Opportunism subcategory relates to the attributes that concern the companies' capabilities and drive to react to market needs and how this relates to innovation activities. This subcategory is somewhat overlapping with culture subcategories. However, opportunism-related activities were clearly emphasized as being part of internal processes of innovation activities and, consequently, they are not merely part of the organizational culture.

Table 2: Overview of the categories, subcategories and labels within each category

Category	Subcategory	# of labels (# labels not found in any of the companies)
Innovation activities	Innovation definition	5
	Innovation processes	6
	Opportunism	3
Knowledge management	Knowledge acquisition	5
	Knowledge transfer	2
	Data/information management	3
	Knowledge capabilities	4
Collaboration	Internal collaboration	2
	External collaboration	4
HRM	General policies and support	11(3)
	Autonomy of employees or teams	6(2)
	Training	4
	Incentives and rewards	1
Culture	Organizational features	8(1)
	Innovation facilitation	3(1)
Total:	15	67

Knowledge management category contains subcategories for knowledge acquisition, knowledge transfer, data/information management, and knowledge capabilities. Knowledge acquisition subcategory describes the sources and means for acquiring new knowledge for individuals, teams, or the organization. Knowledge transfer, on the other hand, contains labels on how networks are utilized in information and knowledge transfer and whether the transfer of knowledge is done with media that could be considered rapid, such as instant messaging. It should be noted that especially in the case of this subcategory there are many omissions that could be included in the subcategory based on the topic of the subcategory. Many companies utilize different kinds of media for transmitting

information, such as meetings, corporate communiqués, et cetera. However, these are not particularly conducive for innovation activities, and therefore are not identified as theoretically relevant practices. The third subcategory, data/information management, focuses on the extent to which technological solutions are utilized as part of innovation, or information or data management, and how to spread the knowledge with the use of technology. The final subcategory relates to the individual and organizational capabilities that relate to knowledge.

Collaboration category is divided into internal and external collaboration. Internal collaboration includes different collaboration on a team-level or between different functions in the organization, such as between the R&D department and sales department. External collaboration describes different stakeholders with which the companies are cooperating to create ideas or implement and develop innovative solutions or products.

HRM category, alongside with the knowledge management category, is the largest category based on the number of labels associated with it, which is natural as the focus of the study is in identifying innovation-enhancing management practices. The subcategories are general policies and support, autonomy of employees or teams, training, and incentives and rewards. The first subcategory is a general subcategory, which includes general organizational practices, policies and features that have particular HRM related aspect, although many of the labels could be associated with the organizational culture as well. Besides conscious effort to increase autonomy of employees, the second subcategory relates also to the practices that either are aimed or indirectly might impact in the subjective experience of being autonomous on the job. Third category concerns mostly activities that include either providing formal training to the employees with external or on-the-job training. Additionally, there are labels for having clear routines for innovation implementation process and for promoting exploratory learning. The routines are typically something that are designed by the organizations and therefore provide good learning-opportunities for the individuals and teams to understand how the innovations could be created or utilized effectively. Finally, the fourth category concerns explicit means of motivating the employees with financial rewards or through recognition to engage more in innovation activities.

Lastly, the culture category includes two subcategories: organizational features and innovation facilitation. Dividing this category into subcategories proved to be rather difficult and also somewhat an artificial task. Organizational features subcategory is a very

heterogeneous subcategory with practices that relate to the organizational structure and how that contributes to the cultural features of the company. On the other hand, innovation facilitation contains practices that could be seen as part of organization's culture, but at the same time directly contribute to the innovation processes and practices.

Based on the interviews and other available data, the companies were also evaluated according to the frameworks for the business system and innovation strategies as characterized by Whitley (2000). The purpose for this was to try to assess whether there would be similarities in the business system characteristics between companies from the same country. If there were, this would indicate that the business system is strong and, consequently, there would emerge similar innovation strategies in other companies as well. The theoretical assumption is that especially particular innovation strategies are prevalent in given business system. The innovation approaches of each company were evaluated to understand whether these seem to match the innovation strategy characteristics of the companies in each business system. As discussed in chapter 2.7, the presumed business system in China is fragmented business system (Whitley, 2000) and the presumed business system in Finland is coordinated market economy (Witt et al., 2018). Therefore, the expected innovation strategies are dependent in China and generic or complex and risky in Finland.

In order to categorize as some company being attributed to a label, I aimed to understand from the data whether such practice was used in the company. It was not enough that some issues were mentioned explicitly but whether it had been somewhat conceptualized by the interviewees. Moreover, I tried to avoid associating a company to a particular practice merely based on explicit mentioning of such practice.

3.4.2. Subcategory Level Data in Chinese Companies

At first, I took a closer look at the data on a slightly higher level to get a better feeling of what kind of trends could be identified from the emerging data. After going through the labelling phase of the data analysis, the total number of practices that could be identified in three Chinese companies was 81. What this means is that out of all labels, or practices, the Chinese companies could be attributed altogether to so many practices based on the available data. As the total number of different available practices was 67, on average, therefore, the Chinese companies could generally have approximately 40 percent of all of the practices researched in this study as the maximum number of practices would be three times the total number of different labels used in this study. The data is summarized in Table 3.

Table 3: Overall number of the practices per subcategory in Chinese companies and the relevance of practice subcategories

Category	Subcategory (total # of practices)	Total number of practices in CN companies	Subcategory relevance
Innovation activities	Innovation definition (**5**)	5	0,33
	Innovation processes (**6**)	10	0,56
	Opportunism (**3**)	1	0,11
	Category total (**14**)	**16**	**0,38**
Knowledge management	Knowledge acquisition (**5**)	6	0,40
	Knowledge transfer (**2**)	5	0,83
	Data/information management (**3**)	4	0,44
	Knowledge capabilities (**4**)	8	0,67
	Category total (**14**)	**23**	**0,55**
Collaboration	Internal collaboration (**2**)	4	0,67
	External collaboration (**4**)	6	0,50
	Category total (**6**)	**10**	**0,56**
HRM	General policies and support (**11**)	10	0,30
	Autonomy of employees or teams (**6**)	5	0,28
	Training (**4**)	3	0,25
	Incentives and rewards (**1**)	3	1,00
	Category total (**22**)	**21**	**0,32**
Culture	Organizational features (**8**)	9	0,38
	Innovation facilitation (**3**)	2	0,22
	Category total (**11**)	**11**	**0,33**
Grand total:		81	0,40

Subcategory column indicates the subcategory and the total number of different practices in the subcategory while the total number of practices in CN companies indicate how many practices (labels) in total were identified in the Chinese companies. The maximum number for this column is three times the total number of different practices in the subcategory. The subcategory relevance is in a range from 0 to 1, 1 indicating that all practices in the subcategory occur in all of the companies and 0 that no practice in the subcategory is in place in any of the companies.

The first column describes the category in question. The second column, "Subcategory (total # of practices)" describes the subcategory of practices and the number within the parentheses indicates the total number of different practices in the subcategory. The third column indicates the total number of practices that occur in all Chinese companies within a

subcategory. For example, in Innovation processes subcategory there is a total of six different labels. This means that the total number of practices in the Chinese companies can be a total of 18 if all of the companies could be attributed to all six different practices in the subcategory.

Comparing the number of practices that emerge in the data to the total number of practices in given subcategory would provide a better understanding of how relevant the subcategory is for the companies in general. This is indicated by the "Subcategory relevance" column in Table 3. The relevance is calculated by dividing the total number of practices from the Chinese companies by the total number of practices in a subcategory, multiplied by three. This is illustrated below in a formula. The purpose for highlighting the relevance is to get an overall understanding of what kind of management practices are utilized in the companies and where the focus is in general.

$$Subcategory\ relevance = \frac{\#\ of\ practices\ in\ a\ subcategory\ in\ CN\ companies}{\#\ of\ labels\ in\ a\ subcategory * 3}$$

Looking at the data more closely, particularly Collaboration (0,56) and Knowledge management (0,55) categories are quite well represented in the Chinese companies whereas HRM (0,32) and Culture (0,33) categories are not. However, we can simultaneously see that there are individual subcategories that are well represented in the data. Exactly or more than 0,50 relevance occurs in Innovation processes (0,56), Knowledge transfer (0,83), Knowledge capabilities (0,67), Internal collaboration (0,67), External collaboration (0,50), and Incentives and rewards (1,00) subcategories. Low relevance at exactly or less than 0,30 is found in Opportunism (0,11), General policies (0,30), Autonomy of employees or teams (0,28), Training (0,25) and Innovation facilitation (0,22).

While the subcategory relevance does not provide an answer to what particular practices emerge from the data or how different companies compare to each other, it gives us a good understanding about the overall practices and comprehension of innovation-related issues in the studied Chinese companies.

3.4.3. Subcategory Level Data in Finnish Companies

The summary of practices and subcategory relevance can be found in Table 4. In total, it was possible to identify 81 different practices that were utilized by the three Finnish companies. Surprisingly, this is the same total number of practices as in the Chinese companies, and the total occurrence of practices was 40 per cent of all of the available practices.

Table 4: Overall number of the practices per subcategory in Finnish companies and the relevance of practice subcategories

Category	Subcategory (total # of practices)	Total number of practices in FI companies	Subcategory relevance
Innovation activities	Innovation definition (**5**)	8	0,53
	Innovation processes (**6**)	5	0,28
	Opportunism (**3**)	2	0,22
	Category total (**14**)	**15**	**0,36**
Knowledge management	Knowledge acquisition (**5**)	7	0,47
	Knowledge transfer (**2**)	3	0,50
	Data/information management (**3**)	6	0,67
	Knowledge capabilities (**4**)	5	0,42
	Category total (**14**)	**21**	**0,50**
Collaboration	Internal collaboration (**2**)	3	0,50
	External collaboration (**4**)	10	0,83
	Category total (**6**)	**13**	**0,72**
HRM	General policies and support (**11**)	11	0,33
	Autonomy of employees or teams (**6**)	7	0,39
	Training (**4**)	3	0,25
	Incentives and rewards (**1**)	3	1,00
	Category total (**22**)	**24**	**0,36**
Culture	Organizational features (**8**)	7	0,29
	Innovation facilitation (**3**)	1	0,11
	Category total (**11**)	**8**	**0,24**
Grand total:		81	0,40

Subcategory column indicates the subcategory and the total number of different practices in the subcategory while the total number of practices in FI companies indicate how many practices (labels) in total were identified in the Finnish companies. The maximum number for this column is three times the total number of different practices in the subcategory. The subcategory relevance is in a range from 0 to 1, 1 indicating that all practices in the subcategory occur in all of the companies and 0 that no practice in the subcategory is in place in any of the companies.

The Finnish companies score particularly well in Collaboration category, with relevance of 0,72. Moreover, they score relatively well also in Knowledge management category (0,50). On the other hand, the Finnish companies are less attributed especially to the Culture

category (0,24). The remaining two categories, Innovation activities (0,36) and HRM (0,36), score relatively close to the average as well.

There is slightly more variance in subcategory relevance compared to the Chinese companies, which could indicate some level of inconsistency in practices in the Finnish companies even though the companies are more similar to each other than the Chinese companies in this study. The Finnish companies are associated with high relevance – exactly or more than 0,50 – in Innovation definition (0,53), Knowledge transfer (0,50), Data/information management (0,67), Internal collaboration (0,50), External collaboration (0,83) and Incentives and rewards (1,00) subcategories. On the other hand, Finnish companies have low relevance, exactly or less than 0,30 in Innovation processes (0,28), Opportunism (0,22), Training (0,25), Organizational features (0,29) and Innovation facilitation (0,11).

3.5. Synthesis of the Collected Data

As Glaser and Strauss (2006: 101) highlight, it is important to compare and study the results, and revise the data continuously. The selected method encourages to compare rigorously the differences between datasets as well. The next step, therefore, is to compare the data from both Chinese and Finnish companies to see if there are some emerging trends or patterns.

First of all, we can notice that while there are differences in subcategory relevance in which the labels occur in Chinese and Finnish companies, generally the subcategories show somewhat similar outcomes. If we compare merely the total number of labels in a category, the largest difference is in Collaboration category with 0,56 subcategory relevance in Chinese companies compared to 0,72 in Finnish companies. However, comparing to the average of 0,40, this still indicates that Collaboration practices are adopted in the companies quite often regardless of the difference of 0,16 points. In other categories the differences are much less and also in the same direction from the average.

In other subcategories there are more differences. The largest differences are in External collaboration and Knowledge transfer subcategories, both with 0,33-point difference. Other major differences between the two countries are in Innovation processes (0,28), Knowledge capabilities (0,25), Data/information management (0,22) and Innovation definition (0,20). On the other hand, clear similarities can be seen in all HRM subcategories: Training (0,00), Incentives and rewards (0,00), General policies and support (0,03), and, to some extent, Autonomy of employees and teams (0,11).

These major similarities would assume that the innovation strategies are surprisingly similar in different countries at least on an average level. Whitley's (2000) theory suggests that the arising innovation strategies would be typically quite dissimilar if the business systems are significantly different, which was also discussed by Witt et al. (2018). For examining this aspect of the innovation strategies, the companies were evaluated how their innovation strategies would seem to be based on the interviews. The summary of the findings for each company is summarized in Table 5. Values for different characteristics were determined by inferring from the data and were not discussed with the interviewees directly. The range is the same as used by Whitley (2000: 872) when describing different characteristics for innovation strategies.

Table 5: Characteristics of innovation strategies for each company

Characteristics	OEM Company 1_CN	Smart City Company 2_CN	Site Remediation Company 3_CN	Elevator Company 1_FI	Cargo Handling Company 2_FI	Power Equipment Company 3_FI
Technical and user uncertainty	Low	Some	Low	Some	Some	Limited
Dedicated and differentiated product qualities	High	High	High	Some	Some	Some
Based on current organizational competences	Low	High	Considerable	Limited	Limited	Considerable
Reliance on formal codified knowledge	Low	Considerable	Some	Some	Considerable	Considerable
Reliance on complex and varied knowledge base	Low	Considerable	High	High	High	Some

The table is composed according to the author's evaluation of the companies' innovation strategies based on the available data. Different values indicate rough range from 1 to 5 in a following manner: low (1), limited (2), some (3), considerable (4) and high (5). The table is based on Whitley (2000: 872).

It is also possible to compare these characterizations to the general characterizations by Whitley (2000: 872). As discussed in chapter 2.7, the Chinese companies should possibly have somewhat dependent innovation strategies whereas Finnish companies would have either generic or complex and risky innovation strategies. If we compare the findings from Table 5 to the Table 1 in chapter 2.5, we can notice that indeed OEM Company 1_CN has quite dependent innovation strategy. However, in the case of other companies either from China or from Finland, it is difficult to categorize the innovation strategy to any of the 'ideal' categories as Whitley (2000) has suggested.

This examination of the data has not yet shown any significant and tangible differences between the Chinese and Finnish companies. While there clearly are indications of some differences, they could not be immediately identified. I will continue this in next chapter, where I will turn my attention to individual labels that are associated with different companies and what kind of practices could be identified as innovation-enhancing management practices. However, understanding the context outlined in this chapter helps to understand the more in-depth analysis of the data.

4. Results

4.1. Description of Innovation-Enhancing Management Practice Labels and Addressing the Reliability of Responses

In order to compare the differences in management practices to facilitate innovations, it is important to determine what are the relevant labels in the data that relate to these management practices. More importantly, as discussed in chapter 2.6, I try to classify the emerging results from the data to the innovation-enhancing management practice groups, that is, what practices (a) promote learning and especially exploratory learning, (b) offer extensive training, (c) help creating efficient procedures, (d) empower people by enabling autonomy in the work and decision making, or (e) promote teamwork. After categorizing different labels under different innovation-enhancing management practice groups, I will continue with more in-depth analysis of the practices and raise different examples from the data. All innovation-enhancing management practices are listed in Table 6.

Under Innovation activities category, there is label 'Processes' under subcategory Innovation definition. This practice refers to whether processes are considered to be a target of innovation activities. In most cases, the practice seems to be used in connection of developing production processes, but internal processes are part of the scope as well. Therefore, the label falls under (c) help creating efficient procedures.

In subcategory Innovation processes, labels 'Clear decision making', 'Flexible decision making' and 'Sophisticated innovation procedures' could be considered to be innovation-enhancing management practices, as these are something that are promoted in the organization and thus the employees are able to benefit from these. The label 'Flexible decision making' falls into the innovation-enhancing management practice group d (empowering people) while the other two belong to the practice group c (efficient procedures).

Knowledge acquisition subcategory has three labels that fit into the innovation-enhancing management practice group a: 'Learning from mistakes', 'Many different knowledge sources' and 'Recombination of knowledge'. These show the kind of information-seeking, that either are conducive to learning or creating new knowledge from different sources. For example, 'Learning from mistakes' and 'Recombination of knowledge' are typically something that enable teams and individuals to find some new ways of doing business. Additionally, 'Socialization' label can be seen as part of promoting teamwork as it refers to the active measures to push people to work and discuss together in different ways.

Consequently, it would be in innovation-enhancing management practice group e. 'Exchange of information in networks' label in Knowledge transfer subcategory belongs in the same practice.

Table 6: Different innovation-enhancing management practices in different subcategories

Subcategories	Innovation-enhancing management practices per group				
	(a) promote learning and especially exploratory learning	(b) offer extensive training	(c) help creating efficient procedures	(d) empower people by enabling autonomy in the work and decision making	(e) promote teamwork
Innovation definition			Processes		
Innovation processes			Clear decision making	Flexible decision making	
			Sophisticated innovation procedures		
Knowledge acquisition	Learning from mistakes				Socialization
	Many different knowledge sources				
	Recombination of knowledge				
Knowledge transfer					Exchange of information in networks
Internal collaboration					Collaboration between functions
					Teamwork
External collaboration	Solution-finding with customers				
General policies and support	Job variety			Motivating to innovate	Promoting teamwork
	Supporting experimenting			Providing enough time	
	Supporting opportunity finding			Support from top management	
				Team responsibility	
Autonomy of employees or teams				Enabling autonomy	
				Encouraging feedback	
				Encouraging self-reflection	
				Encouraging proactiveness	
				Encouraging risk-taking	
				Encouraging voicing opinions	
Training	Promoting exploratory learning	Innovation training	Routines for innovation implementation		
		Job skills development			
Organizational features			Strict processes	Decentralized decision-making	
Innovation facilitation	Situation evaluation				

The table shows all different management practices that could be associated to different innovation-enhancing management practice groups a-e. Subcategory column indicates in which of the subcategories these practices belong.

Within Collaboration category, there are two labels in Internal collaboration subcategory that belong to the innovation-enhancing management practice group e concerning teamwork: 'Collaboration between functions' and 'Teamwork'. These are quite self-evident on

their description, but it is worth mentioning that these reflect the exact practices and therefore especially ‘Teamwork’ should not be confused with the similar label within General policies and support subcategory, which refers to the management policies and not what happens in practice. Not so self-evident, on the other hand, is the label ‘Solution-finding with customers’ in subcategory External collaboration. This falls under practice group a (learning), as it has a possibility to learn new approaches and completely new ways of looking at different problems and issues.

Understandably, management category contains most innovation-enhancing management practices. In General policies and support, there are eight different labels that are associated with these practices. First of all, ‘Job variety’, ‘Supporting experimenting’, and ‘Supporting opportunity finding’ are all under practice group a (learning). Having a possibility to move around within the organization and rotate in different places provides a great opportunity to learn new capabilities for every individual. Experimenting and opportunity finding are key means of exploring different topics and staying open to new ideas, and thus would promote especially exploratory learning. Secondly, ‘Motivating to innovate’, ‘Providing enough time’, ‘Support from top management’, and ‘Team responsibility’ makes sure that the people working on innovations are capable of doing their work efficiently and with at least certain degree of autonomy, and consequently belong to the d practices (empowerment). By providing these practices, the employees have a better chance of having autonomy at work, and consequently, would also be more innovative in the work. The label ‘Team responsibility’ refers to practices in which the companies aim to limit individual responsibility for risks and failures in the innovation sphere. This is important as it provides psychological safety to the employees, which is necessary to be creative. Finally, ‘Promoting teamwork’ is referring just to the general practices to promote teamwork in the workplace in different ways, and thus belongs to the e practices.

All the labels in subcategory Autonomy of employees or teams belong to the innovation-enhancing management practice group d, as they all either directly or indirectly try to remove barriers within organizations to make sure that the employees make relevant decisions, share information and take risks – in short, try to innovate. The labels in this subcategory are ‘Enabling autonomy’, ‘Encouraging feedback’, ‘Encouraging self-reflection’, ‘Encouraging proactiveness’, ‘Encouraging risk-taking’, and ‘Encouraging voicing opinions’.

Subcategory Training has only few labels associated with it, but they all belong to some innovation-enhancing management practices. Similar label to 'Promoting exploratory learning' has been discussed in previous section alongside with General policies and support subcategory. However, in this case, it refers to explicit actions by the companies to help teams and individuals learn more new skills by promoting these exploratory learning opportunities to the employees. Thus, it belongs to the practice group a (promotion of learning). 'Innovation training' and 'Job skills development' are both forms of formal training that are provided to the employees in the organization, and these belong to the innovation-enhancing management practice group b. For the practice group c (efficient procedures), there is a label 'Routines for innovation implementation'. While these practices are typical for innovation processes and could be identified as part of Innovation processes subcategory, these routines are in this case seen as part of Training, as they typically are something that new people are trained for.

Finally, in the culture category we have three labels that could be described as innovation-enhancing management practices. First two are in Organizational feature subcategory: 'Strict processes' and 'Decentralized decision-making'. The first one belongs to practice group c while the second one belongs to the practice group d, as it typically enables teams and individuals to make more decisions when they deem necessary instead of applying strict, hierarchical decision-making. The remaining label 'Situation evaluation' in Innovation facilitation subcategory refers to the practices in which the organization encourages teams and individuals to assess the market or customer situation in every aspect. This is something that would help the organization to keep an open mind, and consequently would be in a better position to learn. Therefore, it belongs to the innovation-enhancing management practice group a.

While there are identified innovation-enhancing management practices in every category, this is not the case with all of the subcategories. There are no identified innovation-enhancing management practices in the following subcategories: Opportunism, Data/information management, Knowledge capabilities, and Incentives and rewards. This is not to say that these do not bear any significance in innovation management, innovation activities, or in general would be beneficial for innovations, but merely that in this research there were no associated practices in these subcategories that could have impact on innovation-enhancing management practices.

While limitations to the study are discussed mainly in chapter 5.4, the analysis requires a brief assessment of how we can assess whether given answers could be reliable within a broader set of companies and not just as traits of an individual organization. In order to answer to this problem, I will be addressing only innovation-enhancing management practices and associated labels, if they occur at least twice in the data for the companies of each country. I expect that with only one 'hit' in a label, i.e. only one company shows some indication of using respective practice, it is a very weak indication that this practice is utilized widely. While two are by no means sufficient for most purposes, it would provide me a better standing to develop the theory. Conversely, having three (which is the maximum out of three companies) in a management practice would indicate strong utilization and it could be argued that these practices tend to occur in many companies. With this approach in mind, I will next turn to reporting either moderate or strong indications of innovation-enhancing management practices in both countries, after which I will compare the results.

4.2. Innovation-Enhancing Management Practices in Chinese Companies

Findings from the Chinese companies show 12 different innovation-enhancing management practices that occur in at least two of the three companies, and therefore there is either moderate or strong indication that such practices are in use in general. As discussed in chapter 4.1, I will limit this way the discussion of the practices to the practices that are not merely used by an individual company, which should reduce bias from one company. Identified practices were ones that the interviewee described explicitly or what was deduced based on the interviews. The companies had also other practices in place, but they are not considered to be part of innovation-enhancing management practices. The practices are mostly individual practices in different subcategories, but in the case of Innovation processes, Internal collaboration and General policies and support subcategories there are two identified practices. The identified practices are summarized in Table 7.

Particularly, there are three different practices that are utilized in all interviewed companies: 'Clear decision making', 'Exchange of information in networks', and 'Strict processes'. This indicates that these practices are typically utilized in many Chinese companies. I will discuss these practices under respective management practice groups.

a) Promotion of learning and b) extensive training in Chinese companies

While there are no strong practices that either promote learning or exploratory learning, or practices that offer extensive training to the employees, there are moderate practices in

both of these innovation-enhancing management practice groups. Based on this, it seems that different knowledge management practices are utilized as a part of management practices to enable teams and individuals to innovate at least to some extent. There were other individual practices that were utilized to promote learning, such as a strong focus in knowledge acquisition in different means and aiming to promote exploratory learning. However, there was only a weak signal that these would be adopted generally in Chinese companies. Particularly Site Remediation Company 3_CN shows wide practices for different forms of exploratory learning through collaboration with universities and global partners.

Table 7: Innovation-enhancing management practices in Chinese companies

Subcategory	Practice	Innovation-enhancing management practice group	# Companies	Indication of general use
Innovation processes	Clear decision making	(c) Efficient procedures	3	Strong
	Sophisticated innovation procedures	(c) Efficient procedures	2	Moderate
Knowledge acquisition	Many different knowledge sources	(a) Promotion of learning	2	Moderate
Knowledge transfer	Exchange of information in networks	(e) Promotion of teamwork	3	Strong
Internal collaboration	Collaboration between functions	(e) Promotion of teamwork	2	Moderate
	Teamwork	(e) Promotion of teamwork	2	Moderate
External collaboration	Solution-finding with customers	(a) Promotion of learning	2	Moderate
General policies and support	Team responsibility	(d) Empowering people	2	Moderate
	Support from top management	(d) Empowering people	2	Moderate
Autonomy of employees or teams	Encouraging proactiveness	(d) Empowering people	2	Moderate
Training	Job skills development	(b) Extensive training	2	Moderate
Organizational features	Strict processes	(c) Efficient procedures	3	Strong

The table describes different management practices per subcategory that are considered to be innovation-enhancing management practices. The third column describes the innovation-enhancing management practice group and the fourth column describes in how many of the interviewed Chinese companies this practice was used. The fifth column indicates whether such practices might be used more generally in China.

> *"Well from my side I didn't provide training, but I would just support them to go outside to study or to go to the conferences to see what are the new ideas now and what kind of materials can be applied in our field and our projects. But I didn't do the training."* -Site Remediation Company 3_CN

> *"And we try to cooperate with universities and also some research institutes from the government side. And we also cooperate with several global*

companies and every year we join kind of conferences... like last year we traveled to Canada to communicate with some local companies. They wanted to introduce their products, which we think are much more competitive with Chinese brands." -Site Remediation Company 3_CN

Smart City Company 2_CN shows the clearest sign of providing extensive training to its employees. However, the training was typically provided to those employees that were on a track to climb the corporate ladder in some way, or who were considered somewhat key talents in the company. To my understanding, the job rotation was still quite common in this company.

"And the cultivation will be divided into two parts. The first part is for the professional talents, things, like the first building talent certificate, so we will cultivate from second to first the difference. And the second is from the management ability to cultivate it, so probably we will encourage them to do some classes, like MBA, and these kinds of things." -Smart City Company 2_CN

c) Efficient procedures in Chinese companies

In all Chinese companies, there was quite clear structure in the decision-making, and although typical stage-gate models, where clear process determines advancement criteria and decision makers, (see e.g. Cooper, 1990) were not always in place, it seemed to be clear that everyone is aware of who should make the decision. The processes were usually related to the decision-making. OEM Company 1_CN had very top-down decision-making organization whereas Smart City Company 2_CN had clear guidelines to innovation processes. The guidelines were also given from top-down, and typically they were some form of strategies or plans. The process that has to be followed was very strict.

"I think the all the people from the Chairman, President of the company, or department Manager. […] The last word has the CEO." -OEM Company 1_CN

"The company has unified research and development plans, determine the direction of research and development depending on the suggestions from investment departments, marketing departments and specific business units." -Smart City Company 2_CN

> *"Common process: Existing product analysis, development of innovation strategies, identification of innovation paths, innovation product or service development, product marketing"* -Smart City Company 2_CN

In Site Remediation Company 3_CN, the processes and decisions were dictated by many standards in the outcomes that were expected as a result of their solution. Moreover, the processes were typically defined either horizontally or vertically: it was expected that whatever process was in place, the employees and teams were expected to follow the processes. Following strict processes were also seen as required in order to guarantee good quality, as was the case in OEM Company 1_CN.

> *"[…] we first do some experiments in the lab and then we will screen the technologies. And then we will take it to the field to amplify these tests and to make sure this can be applied. And then we will use to the real project. And in this kind of process we'll face many difficulties and many problems. In this way then we are... like to activate to find the innovations of the new technologies to solve these kinds of problems. Basically, that's the process in we do."* -Site Remediation Company 3_CN

> *"That means you tell every worker in every position 'you do this one and you do this one', and this worker in this part, and there is quality"* -OEM Company 1_CN

The solutions were typically some sort of combination of existing technologies as the national standard required specific outcomes, but it was possible to achieve the outcome in novel ways. However, there was no room for deviation from the outcome.

> *"And another way of creation is a kind of combining, I think, for some projects maybe one technology cannot solve a problem, and we combine several technologies together to solve that problem. But these individual technologies are not created by ourselves. We just use them in a new way."* -Site Remediation Company 3_CN

d) Empowering people in Chinese companies

While autonomy has been considered very important for generating innovations, practices to promote employee autonomy were used only to moderate extent in the Chinese companies. Interestingly, there was some consistency in the practices that belong to the practice

group d. In fact, OEM Company 1_CN did not present any practices that promote autonomy but instead the other two had all the practices that belong to the practice group d and are listed in the Table 7. This shows that if the organization wishes to promote autonomy at workplace, it is willing to do it in multiple different ways.

> *"We do, we always encourage our team to [come up with new ideas]. Because it's also a competition advantage compared with other companies"* -Smart City Company 2_CN

> *"So I'm trying to keep the team very active, but like I said, I can't force them to do these things. I think they have their own thoughts and their own choices. I respect their ideas, but I'm trying my best to create a very good atmosphere for them. It's just what I can do to gain more support from my leaders. That's what I can do now."* -Site Remediation Company 3_CN

> *"It's very hard because I'm not a teacher to tell the students how to do it. Because in company, I cannot ask them to do... to really follow my every word."* -Site Remediation Company 3_CN

The interviewee from OEM Company 1_CN was quite open and displayed autonomy in this way, but this might have been due to the interviewee's very senior position in the organization. However, his description of the trust in the employees was quite revealing in the company.

> *"Not always. Not each line manager is so... is so responsible. Some line managers are lazy."* -OEM Company 1_CN on whether line managers are encouraged to be proactive with innovations.

It is typically necessary to try to reduce the pressure from the business risks in order to empower individuals and teams to be innovative. There is indication that practices aiming to shift the risk-responsibility either to teams or management are used in some organizations. For example, in the Site Remediation Company 3_CN the most important thing was to have a correct outcome from which no deviations were allowed. The results were known in advance, and the question was merely how and how fast the results could be achieved. As they had limited amount of time, they might use two different teams on the same project, where one team was using the traditional method whereas the other one would take a new approach for the problem. This also showed how the company was willing to experiment

on different approaches. Smart City Company 2_CN, on the other hand, stated that the risks are shared, which indicates that individuals at least are not held responsible.

> *"Share risks, correct them in time, and go on the right track."* -Smart City Company 2_CN

> *"I think if we helped… I think in... yeah like the process I described before, this amplifies things, and if they want to do the more challenging ways, we have to have a backup plan and maybe I will divide this team into two teams. Into two small teams. And each team will do their own part. Because not every person likes to take the very challenging ways, that's what I will do."* - Site Remediation Company 3_CN on how realized risks would impact on the work.

e) Promotion of teamwork in Chinese companies

Teamwork promotion practices were used in all of the Chinese companies. It seems to be possible that teamwork-promoting activities generally are adopted in Chinese organizations in practice. Smart City Company 2_CN and Site Remediation Company 3_CN were operating strictly on team-basis, and Site Remediation Company 3_CN even considered that the original innovations emerge especially in the teamwork.

> *"We have separate different projects and different projects have separate teams."* -Smart City Company 2_CN

> *"So when we're doing the project, we will just calculate the data and also the talents, innovative ideas from our team."* -Smart City Company 2_CN

> *"One way is the innovation from kind of original innovation is when a person in our team... we just create, we just create these things."* -Site Remediation Company 3_CN

Particularly prevalent practices relate to rapid information transfer within teams and other networks, and Chinese companies seem to rely strongly on both informal and formal networks. Based on the data, they focus on exchanging relevant information in different networks and also emphasize this as being particularly important for them. Typically, WeChat or other form of direct communication was utilized. WeChat is a Chinese application used almost universally in China for many purposes, such as instant messaging. The companies

tend to be very active with other stakeholders as well. This was visible especially in OEM Company 1_CN and Site Remediation Company 3_CN.

> "*Our company is not so […] bureaucratic. Just […] WeChat or telephone him. It's very easy."* -OEM Company 1_CN on how to communicate development processes to the CEO.

> *"We will talk with the solution provider and they will come to us. So that means I [show them] these photos, as I show our company to a potential solution provider."* -OEM Company 1_CN on how automation processes are initiated.

> *"We cooperate or we communicate much more often, we would invite them to our conference rooms and give lectures or to... give these communication conferences. And we will put these in our chat group for our company, and everyone knows in which time, which company will come. Actually, we have lots of these kinds of actions."* -Site Remediation Company 3_CN

Besides clear teamwork-emphasis, the Chinese companies are collaborating with different organizational functions in various ways and not just relying on the R&D teams or other product development teams to produce innovations. Providing solutions and creating innovations is seen as a group-effort in many cases. This was particularly visible with the cooperation with the sales teams.

> *"We go out with our salespeople and then we can make several of... meet lot of governors or clients. And the two know what it is they want and what is the... missing in the market to see our opportunities."* -Site Remediation Company 3_CN

> *"[…] research and development depending on the suggestions from investment departments, marketing departments and specific business units"* - Smart City Company 2_CN

4.3. Innovation-Enhancing Management Practices in Finnish Companies

The Finnish companies exhibited 13 different management practices, which could be classified as innovation-enhancing management practices and which were present at least in two of the three companies. Like the Chinese companies, also the practices used in the Finnish companies spread out into different subcategories quite a bit. However,

subcategory General policies and support was more represented than anything else in the Finnish companies. The summary of the practices is found in Table 8.

Table 8: Innovation-enhancing management practices in Finnish companies.

Subcategory	Label	Innovation-enhancing management practice group	# Companies	Indication of general use
Innovation definition	Processes	(c) Efficient procedures	2	Moderate
Innovation processes	Clear decision making	(c) Efficient procedures	2	Moderate
Knowledge acquisition	Learning from mistakes	(a) Promotion of learning	2	Moderate
	Many different knowledge sources	(a) Promotion of learning	2	Moderate
Knowledge transfer	Exchange of information in networks	(e) Promotion of teamwork	2	Moderate
Internal collaboration	Collaboration between functions	(e) Promotion of teamwork	2	Moderate
External collaboration	Solution-finding with customers	(a) Promotion of learning	3	Strong
General policies and support	Motivating to innovate	(d) Empowering people	2	Moderate
	Team responsibility	(d) Empowering people	3	Strong
	Promoting teamwork	(e) Promotion of teamwork	2	Moderate
Autonomy of employees or teams	Enabling autonomy	(d) Empowering people	2	Moderate
	Encouraging proactiveness	(d) Empowering people	3	Strong
Organizational features	Strict processes	(c) Efficient procedures	3	Strong

The table describes different management practices per subcategory that are considered to be innovation-enhancing management practices. The third column describes the innovation-enhancing management practice group and the fourth column describes in how many of the interviewed Finnish companies this practice was used. The fifth column indicates whether such practices might be used more generally in Finland.

As it was with the Chinese companies, also the Finnish companies show strong signals of general adoption of some practices. Four different practices were used in all of the interviewed companies: 'Solution-finding with customers', 'Team responsibility', 'Encouraging proactiveness', and 'Strict processes'. These will be discussed further below.

a) Promotion of learning in Finnish companies

There was a particularly strong tendency to co-operate with the customers in the Finnish companies and it was generally considered impossible to find all the solutions without a close collaboration. Collaboration with the customers was seen as a way to understand the market and thus increase the knowledge about the challenges facing the customers. It was considered that typically the best solutions are found only if the companies engage with the hands-on projects with the customers. For example, Elevator Company 1_FI and Cargo Handling Company 2_FI were always very directly involved with the customers while

Power Equipment Company 3_FI had some reservations in some cases but generally considered customer co-creation important in the development.

> *"But this world is still such that no one can really handle everything by itself. You have to collaborate, and things are much more complex, and you need to have better capabilities. In that way also we focus a lot on customer co-creation."* -Elevator Company 1_FI

> *"We did probably more than a hundred customer and end user workshops and interviews around the world. […] We wanted to understand what are the generic problems, bottle necks, and challenges"* -Elevator Company 1_FI

> *"[…] we try to engage customers and get them involved in certain projects. Maybe should not in all projects, but more and more."* -Power Equipment Company 3_FI

> *"Typically [innovations] are born from the customer need many times, when the customer had a problem. Either it is a problem that we noticed or that the customer tells us directly. For example, there was this truck loading in an automatic lift. […] These are very typical that the problem is noticed and it has to be resolved. That way we can also be more competitive in the market as well."* -Cargo Handling Company 2_FI

Customer needs were sometimes also the key part for measuring success in innovations:

> *"[…] if we can develop something that the customer is satisfied to, then it can be considered as a successful innovation."* -Power Equipment Company 3_FI

> *"If there is no interest in the market of with the customers, that's the easiest indicator of course."* -Cargo Handling Company 2_FI on how to determine great ideas.

While the Finnish companies show strong and moderate signals for practices that promote learning and exploratory learning, they seem to have varied response to providing formal training systematically. The promotion of learning group is very well represented, but the extensive training group is not represented at all to the extent that justifies examination in this study. For example, in Elevator Company 1_FI there was no commonly available innovation training at all. If we look at the data closely, there are some weak signals of

having different practices to promote formal training. However, in general it seems that formal training is not widely used practice in order to provide training for innovations. If there was formal training provided, it was for different tools or frameworks, such as design thinking and service design in Power Equipment Company 3_FI, which are typically used to develop further new ideas.

> *"This leadership training and these depend on the individuals. Many in my team have applied for these means, how to develop themselves and participate in different events, where it could be possible. But it's not companywide. But of course, it really depends on the role and what results are expected."* - Cargo Handling Company 2_FI

> *"We get some tools for the work. Like design thinking and service design and all that. We have those trainings."* -Power Equipment Company 3_FI

On the other hand, learning by doing and acquiring new knowledge through different sources was apparent. For example, Cargo Handling Company 2_FI has a very strong practice of re-evaluating their projects to understand what went right and what went wrong and then try to learn from mistakes. Moreover, they encourage their employees to go outside of the company to learn about the market and new technology.

> *"It is through these lessons learned events where we try to evaluate analytically why something happened and where we didn't put enough efforts. We try to learn from the mistakes what we do here. It is important to learn that we don't repeat the same mistake in slightly different projects."* -Cargo Handling Company 2_FI

> *"We go actively in different events and conferences in the field, and different exhibitions and so on. We try to gather the information in many different ways."* -Cargo Handling Company 2_FI

c) Efficient procedures in Finnish companies

As all the interviewed companies were quite large companies, it was necessary for them to have clear processes for the development – this was the case with all of the Finnish companies. Typically, some sort of stage-gate model was in place, although its applications were not always so clear. For example, in Elevator Company 1_FI, there was always a steering group making decisions in different stages of any project. This was also seen as being

sometimes slightly too bureaucratic in the organization as well. Particularly clear decision-making processes were utilized in two of the three companies. For example, Cargo Handling Company 2_FI had clear roadmap for its development, and they had strict rules for decisions and how projects were assessed before advancing past certain stages.

> *"There's of course this technology roadmap, which is examined even right now with quite a big group of people and thought what are the important areas in technology and methodology. […] Then there are these different inventions and ideas and whatnot that are handled in different boards where there are representatives from many different fields. And then we evaluate them together and rank them together to see which are potential [ones] and what can be pushed forward in the tube."* -Cargo Handling Company 2_FI

> *"Of course, we have this gate model in use. How [innovation] goes through the first gates, it's already quite strict what kind of documents are required. Then there are these evaluation points that have the objectives been set, which were set at earlier stage."* -Cargo Handling Company 2_FI

Interestingly, Power Equipment Company 3_FI exhibited both clear and flexible decision-making: this indicates that in such company decision-making is in strong focus of the management and is seen as very important part of the innovation processes. The decision-making is determined case by case for effectivity.

> *"It really depends on the products, product categories and investments."* - Power Equipment Company 3_FI on who are making decisions on what kind of innovations are pursued.

> *"In a way we follow the same process that's been in place in the product development side. That there are no… there haven't been changes yet, but we are working now on these things that the processes or the charts through which we can then improve our idea nurturing and decision-making."* - Power Equipment Company 3_FI

d) Empowering people in Finnish companies

The Finnish companies were very focused on innovation-enhancing management practices that promote autonomy and empower people. It was the most represented practice group in the Finnish companies and different practices were utilized by all of the companies.

Elevator Company 1_FI focused especially having a very strong support from the top management and considered this to be paramount. Moreover, soft skills were considered quite important in order to facilitate the innovation processes and it was, to some extent, seen as something that is slightly new approach to development.

> *"More and more soft side is really important. That I can get the people to be excited about [innovations]. That they would be fully behind the ideas or behind the organization or the development. I think this is the most important."* -Power Equipment Company 3_FI

> *"As we discussed, money is only one motivator for the people. It is especially motivating work where the good ideas emerge."* -Cargo Handling Company 2_FI

> *"Encouraging culture is extremely important and of course the leader has a lot of ways to impact on how the team members think about [innovations] and how they align themselves with [innovation processes] and how much do they invest their own time in thinking all this."* -Cargo Handling Company 2_FI

It was apparent from the data that there was a conscious effort of holding teams responsible instead of individuals, which would empower the employees. In Elevator Company 1_FI, the steering team was held responsible in every stage and the interviewee emphasized that there was no room for soloing by individual employees. While there were some extreme cases when individuals would be held responsible for failures or mistakes, these were reserved only to the conscious misconduct at least in Cargo Handling Company 2_FI. In Power Equipment Company 3_FI as the project could last even multiple years, typically the team composition changes so many times that it would even be unpractical to determine who's fault some problems are.

> *"[Risk assessment] is in the team's responsibility, and very rarely there is a particular individual who has to sweat over it. […] Our developments are so wide and there are many people involved. It is very rare that you could yourself get to develop something and take it to so far that it would cost a lot."* -Power Equipment Company 3_FI

> *"[Personal consequences] can happen depending on how big and significant it is. At some point there can be [consequences]. But these are quite big. […] They are in quite different level things."* -Cargo Handling Company 2_FI

e) Promotion of teamwork in Finnish companies

Three out of five examined teamwork promoting management practices were used in the Finnish companies. Perhaps interestingly, these practices were used only in two of the three companies. This indicates similarly to what was described above with the Chinese companies' relation to the practices that promote autonomy: while the teamwork promoting practices are not widely used in some organizations, in others many different teamwork promoting practices are being used. However, the one company not focusing on these practices seemed to have an ongoing process to develop such practices. In general, teams were used in the development in every company, but there might have not been particular management practices to further emphasize the teamwork.

More emphasis was put on internal and external collaboration in order to transfer and acquire new knowledge. Internal collaboration between different functions was highlighted by Elevator Company 1_FI, which focused particularly to the cooperation between R&D department and sales. At the same time, the company highlighted that sometimes front-end salespeople are so eager to tell new developments to the customers that they might even spill out confidential information about the development and therefore sometimes the information has to be contained. Cargo Handling Company 2_FI highlighted particularly the vast network that was used for acquiring information while Power Equipment Company 3_FI emphasized cross-functionality.

> *"We don't have resources to scan the whole world and what new is happening and what kind of tools are in use. Of course, we use partners to speed up the beginning."* -Cargo Handling Company 2_FI

> *"I see that more and more we get cross-functionality included so that our company's own organizations are more involved in the development and collaborate better."* -Power Equipment Company 3_FI

5. Discussion and Conclusions

5.1. Overview

As discussed in the previous chapter, there are some similarities and some differences in the innovation-enhancing management practices between Finnish and Chinese companies. However, so far this study has focused mostly on the conceptual level of these practices, i.e. whether a practice that seems to fall within a particular label exists or not. In order to carry out the analysis further, and to develop some sort of a theory on the differences between the companies in two countries, it is important to assess the differences on a deeper level, that is, by evaluating and comparing actual practices as the companies themselves describe. Only with this analysis, it is possible to distinguish the differences and assess whether there are some clear similarities or not.

When we compare the innovation-enhancing management practices in China and Finland, we can immediately notice both some similarities and some differences. In total, there were three practices that had a similar level of application in both countries: moderate signals of adoption of 'Many different knowledge sources' and 'Collaboration between functions', and strong signals of adoption with 'Strict processes'. Indeed, all companies use strict processes in the organization. The comparison of innovation-enhancing management practices is shown in Table 9. The table consists only practices that show either moderate or strong prevalence in the companies and shows whether such practices are applied in conceptual level but does not assess the actual contents of such practices. This will be discussed more later in this chapter.

Both Finnish and Chinese companies utilize management practices that promote efficient processes in different ways. This is slightly more prevalent in the Chinese companies especially since all of the interviewed companies had a very clear decision-making structure. The focus of the processes is slightly different with the two countries as the Finnish companies consider processes to be the outcome of innovations as well, whereas this was not visible in the Chinese companies. The same conclusion could be drawn from the teamwork-promoting innovation-enhancing management practices: some forms of teamwork-promotion is used in all companies, although in one Chinese company the teamwork was at least seemingly neglected to some extent.

Table 9: Comparison of the innovation-enhancing management practices in Chinese and Finnish companies

Subcategory	Practice	Practices in CN companies	Practices in FI companies	Management practice group
Innovation definition	Processes	-	Moderate	(c) Efficient procedures
Innovation processes	Clear decision making	Strong	Moderate	(c) Efficient procedures
	Sophisticated innovation procedures	Moderate	-	(c) Efficient procedures
Knowledge acquisition	Learning from mistakes	-	Moderate	(a) Promotion of learning
	Many different knowledge sources	Moderate	Moderate	(a) Promotion of learning
Knowledge transfer	Exchange of information in networks	Strong	Moderate	(e) Promotion of teamwork
Internal collaboration	Collaboration between functions	Moderate	Moderate	(e) Promotion of teamwork
	Teamwork	Moderate	-	(e) Promotion of teamwork
External collaboration	Solution-finding with customers	Moderate	Strong	(a) Promotion of learning
General policies and support	Motivating to innovate	-	Moderate	(d) Empowering people
	Team responsibility	Moderate	Strong	(d) Empowering people
	Promoting teamwork	-	Moderate	(e) Promotion of teamwork
	Support from top management	Moderate	-	(d) Empowering people
Autonomy of employees or teams	Enabling autonomy	-	Moderate	(d) Empowering people
	Encouraging proactiveness	Moderate	Strong	(d) Empowering people
Training	Job skills development	Moderate	-	(b) Extensive training
Organizational features	Strict processes	Strong	Strong	(c) Efficient procedures

The table shows different practices within different subcategories that are in place in both Chinese and Finnish companies. The fifth column indicates the innovation-enhancing management practice group the practice belongs to.

Clear differences can be found in the practices that aim to promote autonomy and decision-making for the individuals and teams. While the decision-making is very clear in Chinese companies, it seems that it is typically fairly hierarchical in the organization, and therefore the teams are not so independent in their operations. The same is true in Finnish companies at least in some cases, but generally the approach seems to be that even though there should be clarity in who should make the final decisions, the decision-maker might be in different levels of organization and somewhat independent from the hierarchy of the company. Moreover, the Finnish companies are particularly focused on different management practices that help the individuals and teams to be autonomous. Trying to remove the psychological barriers for innovation are prevalent in different ways. Interestingly, however, in one Chinese company (Site Remediation Company 3_CN) the organization seemed to

adopt almost any kinds of practices that would encourage the individuals and teams to be as innovative as possible and encouraging them to challenge the status quo. Regardless, this was not the case in general for the Chinese companies as opposed to the Finnish ones.

Another visible difference is the approach to learning: the Finnish companies tend to focus more on informal learning while the Chinese companies do not focus as much on informal learning but instead complement this with formal training slightly more. For example, Finnish companies focus on learning from mistakes and trying to find solutions to problems with the customers. On the other hand, the Chinese companies also collaborate with the customers to find solutions at least moderately, and they also provide a lot of training for developing job-specific skills.

There are various aspects that should be addressed in this chapter. First of all, I will compare the innovation-enhancing management practices in the two countries based on the initial differences and similarities on a conceptual level and whether the actual descriptions of the practices reveal similarities or not. I will also discuss the impact of the different cultures and whether some of the differences or similarities could be explained by the cultural differences based on the Hofstede's cultural dimensions (Hofstede, Hofstede & Minkov, 2010). Thirdly, I will briefly assess the innovativeness of the companies. And finally, I will compare the results and the innovation strategies they represent to the expected business systems.

5.2. Differences and Similarities in Innovation-Enhancing Management Practices

a) Promotion of learning

As discussed in the chapter 4.1.4, both countries exhibit practices to utilize many different knowledge sources and solution-finding with the customers. Additionally, the Finnish companies focus on learning from their mistakes more than the Chinese companies.

The Chinese companies focused on collaboration with the universities and research centers for acquiring new knowledge. Moreover, they also recognized many external experts from different fields and tried to utilize their knowledge as well. The Finnish companies also did a lot of collaboration with different stakeholders, and especially Elevator Company 1_FI utilized a lot of global hackathon or startup collaboration to acquire new knowledge. While Site Remediation Company 3_CN exhibited significant inclination towards exploratory learning for example by encouraging the people to always go out to do research and

discuss with other people, this tendency was more embedded in the Finnish companies as they aim to learn from everything they do as Cargo Handling Company 2_FI describes.

> *"And we try to cooperate with universities and also some research institutes from the government side. And we also cooperate with several global companies and every year we join kind of conferences... like last year we traveled to Canada to communicate with some local companies. They wanted to introduce their products, which we think are much more competitive with Chinese brands."* -Site Remediation Company 3_CN

> *"[…] I would just support [team members] to go outside to study or to go to the conferences to see what are the new ideas now and what kind of materials can be applied in our field and our projects. But I didn't do the training."* -Site Remediation Company 3_CN

> *"It is through these lessons learned events where we try to evaluate analytically why something happened and where we didn't put enough efforts. We try to learn from the mistakes what we do here. It is important to learn that we don't repeat the same mistake in slightly different projects."* -Cargo Handling Company 2_FI

The Site Remediation Company 3_CN also saw knowledge acquisition as the most important way to facilitate innovation:

> *"So one way is, I know the markets and know the problems and then tell them what to do. The second way is to create opportunities for them to think outside, to communicate with the researchers."* -Site Remediation Company 3_CN

Solution-finding with customers happens in a very similar way in all of the companies. The innovations are seen to arise particularly from the customer needs instead of merely the internal reflection of the ideas. While we can see that there is a deviation from this conclusion in the Smart City Company 2_CN, it seems reasonable to assume that these practices are quite similar in general in most companies. Also, Power Equipment Company 3_FI exhibits practices that the customers do not need to be involved in the innovation processes every time. This is somewhat controversial, however, as they also employ design thinking methodology, which predominantly focuses on the customer interaction in the

development. The main difference in Chinese and Finnish companies is that in the Chinese companies it seems that the customers are more active in proposing projects whereas the Finnish companies are more likely to be proactive in the collaboration with the customers. This might have something to do with the market development as well, as the Chinese market develops faster and the companies have to be more reactive to change. Moreover, by being active towards the customers and other collaborators, the Finnish companies exhibit more exploratory tendencies compared to the Chinese.

> *"Yes, we develop molds and we develop process, and mostly we get also some advice from the customer. And that means that the customer comes to us and teaches us how we can ensure the good quality."* -OEM Company 1_CN

> *"And, generally speaking, we will just find the innovation or creative ideas from ourselves, and also we combine with customer's demands. And we also get them to think about what kind of things they need indeed. So we will combine that from our side and also from the customer's side. And we will do the R&D for that."* -Smart City Company 2_CN

> *"I think it's better to meet with different clients and to see what their projects... the problems they are facing."* -Site Remediation Company 3_CN

> *"But this world is still such that no one cannot really handle everything by itself. You have to collaborate, and things are much more complex, and you need to have better capabilities. In that way also we also focus a lot on customer co-creation."* -Elevator Company 1_FI

> *"[...] we try to engage customers and get them involved in certain projects. Maybe should not in all projects, but more and more."* -Power Equipment Company 3_FI

> *"Typically [innovations] are born from the customer need many times, when the customer had a problem. Either it is a problem that we noticed or that the customer tells us directly. For example, there was this truck loading in an automatic lift. [...] These are very typical that the problem is noticed and it has to be resolved. That way we can also be more competitive in the market as well."* -Cargo Handling Company 2_FI

I can draw following conclusions for learning promotion innovation-enhancing management practices:

- **Finnish companies** focus more on learning from the mistakes than Chinese companies
- **Chinese companies** emphasize the importance of knowledge acquisition as a primary means to facilitate innovations
- **Chinese companies** find innovative solutions together with the customers, but the initiative for collaboration typically comes from the customers
- **Finnish companies** find innovative solutions together with the customers, and the initiative for collaboration does not typically come from the customers
- **Chinese and Finnish companies** utilize many different and international partners to acquire knowledge

b) Extensive training

In the innovation-enhancing management practice group b the focus was on the formal training and on-the-job training. Especially Chinese companies exhibited practices that fall under this category. The Smart City Company 2_CN had extensive programs for different kinds of talent cultivation, and they have a lot of job-rotation within the company based on the development of the employees. Site Remediation Company 3_CN focused especially on providing training on the practical skills, although they did not provide training for innovation development or other development as much as the other companies did. The Finnish companies, on the other hand, did not present as extensive training programs at least companywide, but instead focused on providing different tools and methodologies that are aiming to develop better innovations.

> *"And the cultivation will be divided into two parts. The first part is for the professional talents, things, like the first building talent certificate, so we will cultivate from second to first the difference. And the second is from the management ability to cultivate it, so probably we will encourage them to do some classes, like MBA, and these kinds of things."* -Smart City Company 2_CN

> *"But if they have difficulties like to use the equipment or how... and some of the labs skills they are not confident with, I will show them how to do it or I*

will ask like the equipment engineers to be here and to tell them how to operate." -Site Remediation Company 3_CN

"We get some tools for the work. Like design thinking and service design and all that. We have those trainings." -Power Equipment Company 3_FI

"This leadership training and these depend on the individuals. Many in my team have applied for these means, how to develop themselves and participate in different events, where it could be possible. But it's not companywide. But of course, it really depends on the role and what results are expected." -Cargo Handling Company 2_FI

The Chinese companies provide more training to the key employees and aim to cultivate those into more senior positions. There was no such indication in the Finnish companies, but when training was provided, it was provided based on the position in the company and to the teams. However, this was not deeply discussed with any of the companies – the Chinese merely raised this point of view while the Finns did not. Based on these, I can draw following conclusions for extensive training innovation-enhancing management practices:

- **Chinese companies** provide more systematic training on-the-job and through formal training but focus particularly to the key employees
- **Finnish companies** provide different frameworks and tools for innovation creation and
- **Finnish companies** do not systematically provide training for innovation, but if *ad hoc* training is provided, it is typically provided for any employee instead of only key employees

c) Efficient procedures

Strict processes and clear decision-making were most represented practices in the efficient procedures practice group among the Finnish and Chinese companies. The Chinese companies, however, exhibited more vertical decision-making, as typically there was either very strong management involvement in the decision-making processes or the strategy or other comprehensive plan was utilized to provide clear guidelines – no deviations from this were expected. For example, Site Remediation Company 3_CN does not expect the employees to follow every word, but in these cases there is typically an increase in resources to a particular project in order to have one team following the strict process and the other one deviating from this for experimental purposes. What exemplifies the Chinese focus on the

processes is that the Smart City Company 2_CN considered systematization to be the most important means to facilitate innovations.

> *"I think the all the people from the Chairman, President of the company, or department Manager. […] The last word has the CEO."* -OEM Company 1_CN

> *"The company has unified research and development plans, determine the direction of research and development depending on the suggestions from investment departments, marketing departments and specific business units."* -Smart City Company 2_CN

> *"Common Process: Existing product analysis, development of innovation strategies, identification of innovation paths, innovation product or service development, product marketing"* -Smart City Company 2_CN

> *"But we have the final goal – it's already there. […] It's much better for them to have individual thoughts. I think that's what I will encourage. […] But if they disagree with the solutions, then they have to provide me the better one and to convince me."* -Site Remediation Company 3_CN

While the Finnish companies also have the strategy and roadmaps steering the development, there seemed to be more room for employee decision-making, which also seemed to vary in some extent: it was not always directed from the top. The strategy, roadmaps, and other methods top management in the Finnish companies used to steer what employees did was more a general direction rather than as detailed as in the case of Chinese firms. Steering teams were designed typically based on the needs of a particular development and focused more on the expertise of the teams. This indicates that there is more room for horizontal decision-making instead of strict top-down decision-making since the membership in the deciding organs was not visibly based on the seniority in the organization. For example, Cargo Handling Company 2_FI has a strong internal co-operation in deciding what is the development focus. In general, the decision-making manifests itself in the Finnish company as something that is definitely directed from the top through strategy and plans on paper, but the implementation phase has more flexibility and is not directed by the more senior people in all cases. The Power Equipment Company 3_FI emphasizes the strategy's function, but the decisions are done by very different teams in different cases and not by centralized decision-makers.

"There's of course this technology roadmap." -Cargo Handling Company 2_FI

"Then there are these different inventions and ideas and whatnot that are handled in different boards where there are representatives from many different fields. And then we evaluate them together and rank them together to see which are the potential [ones] and what can be pushed forward in the development tube." -Cargo Handling Company 2_FI

"Of course, we have this gate model in use. How [innovation] goes through the first gates, it's already quite strict what kind of documents are required. Then there are these evaluation points that have the objectives been set, which were set at earlier stage." -Cargo Handling Company 2_FI

"It really depends on the products, product categories and investments." - Power Equipment Company 3_FI on who are making decisions on what kind of innovations are pursued.

"In a way we follow the same process that's been in place in the product development side. That there are no… there haven't been changes yet, but we are working now on these things that the processes or the charts through which we can then improve our idea nurturing and decision-making." - Power Equipment Company 3_FI

I can draw following conclusions for efficient procedures innovation-enhancing management practices:

- **Chinese companies** have more vertical decision-making than Finnish companies
- **Finnish companies** have more horizontal and flexible decision-making than Chinese companies
- **Chinese companies** have strict, but varied, processes to develop innovations
- **Finnish companies** have typically some form of stage-gate model in place for innovation development

d) Empowering people

Innovation-enhancing management practices that aim at empowering people were quite different in Finnish and Chinese companies. All companies had quite similar approaches to how risks are perceived, and they were on the responsibility of teams or the management.

Only in very extreme cases there were any personal consequences. This was the same in both Chinese and Finnish companies based on their own description.

> *"[Personal consequences] can happen depending on how big and significant it is. At some point there can be [consequences]. But these are quite big. […] They are in quite different level things."* -Cargo Handling Company 2_FI

However, the Chinese companies did not entrust responsibilities even in some managers, especially in OEM Company 1_CN. Site Remediation Company 3_CN exhibited wide practices to empower people in different ways, such as encouraging employees to voice their own opinions, but it was not as prevalent in other Chinese companies. In general, the employees were encouraged to be proactive with ideas, but it remained unclear whether other forms of empowerment-enhancing practices were used widely. Additionally, for example in Smart City Company 2_CN there were some incentives in place to promote innovativeness, but it was not specified clearly whether these are for individuals or teams. Smart City Company 2_CN also has collective recognition system in place that occurs in the annual employee events, but similar practice was not in place in other Chinese companies.

> *"We do, we always encourage our team to [come up with new ideas]. Because it's also a competition advantage compared with other companies"* -Smart City Company 2_CN

> *"Not always. Not each line manager is so... is so responsible. Some line managers are lazy."* -OEM Company 1_CN on whether line managers are encouraged to be proactive with innovations.

> *"So I'm trying to keep the team very active, but like I said, I can't force them to do these things. I think they have their own thoughts and their own choices. I respect their ideas, but I'm trying my best to create a very good atmosphere for them. It's just what I can do to gain more support from my leaders. That's what I can do now."* -Site Remediation Company 3_CN

> *"It's very hard because I'm not a teacher to tell the students how to do it. Because in company, I cannot ask them to do... to really follow my every word."* -Site Remediation Company 3_CN

Comparing the approaches to the Finnish companies, Elevator Company 1_FI focused on having top-management support for the development in order to provide freedom to innovate in the lower levels. This was considered to be the most important way to facilitate innovations. Additionally, the Finnish companies focused on providing intrinsic motivation to the employees to be more innovative and tried to cultivate organizational culture that would help the people be more open. This was seen especially as the leadership's responsibility. For example, in Power Equipment Company 3_FI and Cargo Handling Company 2_FI these were the most important things a leader could do to facilitate innovations effectively. Extrinsic motivation through incentives were in place, such as an 'encouragement money' in Cargo Handling Company 2_FI, but the connection to innovation promotion was either unclear or the incentive was not considered to be in place in practice. However, theoretically the incentives were provided both to individuals and teams.

> *"More and more soft side is really important. That I can get the people to be excited about [innovations]. That they would be fully behind the ideas or behind the organization or the development. I think this is the most important."* -Power Equipment Company 3_FI

> *"As we discussed, money is only one motivator for the people. It is especially motivating work where the good ideas emerge."* -Cargo Handling Company 2_FI

> *"Encouraging culture is extremely important and of course the leader has a lot of ways to impact on how the team members think about [innovations] and how they align themselves with [innovation processes] and how much do they invest their own time in thinking all this."* -Cargo Handling Company 2_FI

From these findings, I can draw following conclusions for people empowering innovation-enhancing management practices:

- **Chinese and Finnish companies** avoid holding individuals responsible for honest mistakes and innovation success
- **Chinese companies** encourage proactiveness in providing ideas but managers do most of the deciding
- **Chinese companies** exhibit less trust and thus empowerment in their employees than the Finnish companies

- **Finnish companies** focus on intrinsic motivation of the employees to generate innovations
- **Finnish companies** encourage proactiveness generally in ideation, knowledge acquisition and collaboration
- **Finnish companies** consider empowering practices to be the most important ones to facilitate innovation

e) Promotion of teamwork

Teamwork promotion management practices had different focuses in Chinese and Finnish companies. The practices that promote some form of teamwork, especially in terms of transferring knowledge effectively within different networks, were more prevalent in the Chinese companies. Chinese companies focused particularly on the informal means to communicate within the networks to transfer information. The companies had varied expectations of where the innovations happen. For example, in Smart City Company 2_CN the teams provided the innovative ideas and in Site Remediation Company 3_CN the individuals in teams would come up with ideas.

> *"We cooperate or we communicate much more often, we would invite them to our conference rooms and give lectures or to... give these communication conferences. And we will put these in our chat group for our company, and everyone knows in which time, which company will come. Actually, we have lots of these kinds of actions."* -Site Remediation Company 3_CN
>
> *"We have separate different projects and different projects have separate teams."* -Smart City Company 2_CN
>
> *"So when we're doing the project, we will just calculate the data and also the talents, innovative ideas from our team."* -Smart City Company 2_CN
>
> *"For each week, every department has to [deliver at least two important pieces of information to their team and other teams], and one person taking in charge - or connecting this information and make it to one word file - and she will distribute in the chat group, and she will also keep these in her computer."* -Site Remediation Company 3_CN

"One way is the innovation from kind of original innovation is when a person in our team... we just create, we just create these things." -Site Remediation Company 3_CN

"Through the regular meeting system, including the daily meeting, the weekly meeting and the monthly meeting, the annual employee meeting collective recognition and unified publicity." -Smart City Company 2_CN on how to communicate ideas within the company.

The Finnish companies focused more on how they collaborate internally between different functions of the organization. For example, Cargo Handling Company 2_FI used a CRM tool, in which the salespeople made notes about customer needs and also inquiries about the possible issues. After this the R&D department utilized this information in the development. In Chinese companies Site Remediation Company 3_CN usually had development lead participating in customer meetings with the salespeople and similarly was able to find customer needs through that but generally such approach to cross-functional collaboration was not used in other Chinese companies. Collaboration outside of the organization was widely considered to be important as well. While the Finnish companies also aim to transfer information with different means internally and in other networks, it is mostly emphasized in Cargo Handling Company 2_FI. Elevator Company 1_FI was particularly focused on the collaboration between sales function and the R&D or other innovation-related function.

"We don't have resources to scan the whole world and what new is happening and what kind of tools are in use. Of course, we use partners to speed up the beginning." -Cargo Handling Company 2_FI

"I see that more and more we get cross-functionality included so that our company's own organizations are more involved in the development and collaborate better." -Power Equipment Company 3_FI

"One important thing is that we have weekly team meetings in which we share information and a little bit about what each of us have seen and experienced and so on." -Cargo Handling Company 2_FI

"Of course, we have those internal communiqués." -Power Equipment Company 3_FI on how innovations are communicated within the organization.

I can draw following conclusions for teamwork promotion innovation-enhancing management practices:

- **Chinese companies** emphasize the importance of information sharing within the teams
- **Chinese companies** focus on rapid information transfer via instant messaging and face to face interactions
- **Finnish companies** emphasize collaboration and information-sharing across different functions, such as between sales and R&D
- **Finnish companies** focus more on formal communication within the organization
- **Chinese and Finnish companies** organize their innovation activities in teams

While these findings cannot be considered definitive, they provide some insights into the similarities and differences in innovation-enhancing management practices. These key management practices observed in the case studies to facilitate innovation are summarized in Table 10, which also allows us to compare the differences between China and Finland. From the table we can see many differences and how the companies feel what are more important practices and what are less important ones. The practices that are considered to be the most important for a company to facilitate innovation as described by the companies themselves is noted by (*). Moreover, the superscripts after each practice denote whether there is strong (1) or moderate (2) relevance for such practices. This means that the practices that are labelled either with CN1 or FI1, are the most relevant practices in both Chinese and Finnish companies as they emerge in either two or all of the three companies.

If I compare the findings here to the Hofstede's cultural dimensions, it is possible to notice some trends. As suggested in chapter 2.7, the Chinese companies would have strict processes and decision making, which indeed seems to be the case in this study. It is also emphasized as being an important practice. On the other hand, it was suggested that they would focus less on practices that empower people. While it seems to be true that there is less trust in the employees, which could have been expected based on the power distance in Chinese culture, the Chinese companies also use management practices to encourage proactiveness. At least to some extent this might mitigate some disadvantages to innovation practices caused by the reduced trust in the organization, although it is unclear whether this is conscious or not. It is also possible that the encouragement to be proactive is caused by the belief that the people in the management should make the decisions while the

employees would provide more ideas to the management. Perhaps interestingly, Site Remediation Company 3_CN described its culture with a word 'freedom', which seems to be controversial to the cultural features. Chinese companies also provide systematic training on the job, and it is also seen as a reward and necessary to climb the corporate ladder, which exhibits masculine cultural behavior.

Table 10: Differences and similarities of innovation-enhancing management practices in Chinese and Finnish companies

	Promotion of learning	**Extensive training**	**Efficient procedures**	**Empowering people**	**Promotion of teamwork**
Chinese	Knowledge acquisition[CN2](*)	Systematic training on-the-job[CN2]; Training focus on key employees[CN2]	Vertical decision-making[CN1]; Strict processes[CN1](*)	Encourage proactiveness[CN2]; Less trust in employees[CN2]	Information sharing in teams[CN1]; Rapid information transfer[CN1]
Finnish	Learning from mistakes[FI2]	Different frameworks and tools for innovation[FI2]; Training focus on all employees or specific positions[FI2]	Horizontal and flexible decision-making[FI2]; Stage-gate model[FI1]	Focus on intrinsic motivation[FI1]; Encourage proactiveness [FI1]; Empowering practices[FI1] (***)	Collaboration between functions[FI2]; Formal communication[FI2]
Both	Innovative solutions with customers[CN2FI1]; Many different sources for information[CN2FI2]			Individuals not responsible for innovations and their success[CN2FI1]	Innovation activities in teams[CN2FI2]

(*) indicates whether the practice or theme is considered to be the most important for facilitating innovation (one Chinese company did not provide a clear answer to this). Superscripts after each practice indicate the relevance of the practice in the companies: 1 indicates strong relevance and 2 indicates moderate relevance. CN indicates Chinese companies and FI indicates Finnish companies.

The Finnish companies, on the other hand, also exhibit practices that could be expected based on the Finnish cultural dimensions. For example, slight emphasis on exploratory learning perhaps signifies traits that are associated with indulgence dimension. The clearest correlation between expected results and actual results is in the individualism and femininity dimensions. All Finnish companies emphasize the importance of different empowering activities, which is typical for somewhat individualistic, feminine societies. Although horizontal and flexible decision making indicate expected results based on the power distance dimension, the focus on controlling decision making through stage-gate models shows strong signals for uncertainty avoidance as the management of the process should reduce such unwanted uncertainties.

For example, the customer collaboration seems to be slightly different in Chinese and Finnish companies, and the reason for this might be both in business system and national culture. While all of the companies work closely with the customers, it usually is the customer or someone external to the company that proposes collaboration or customer co-creation in Chinese companies whereas the Finnish companies seem to be somewhat more proactive in the collaboration. For example, long-term orientation in Chinese culture would emphasize long-term nature of the collaboration partners, which in turn would require more time and effort spent on such relationships and therefore trying to find new partners might be unadvisable due to high costs of maintaining such relationship. On the other hand, the Finnish culture is not as long-term oriented, in which case it is easier to establish many, although more superficial, partnerships with customers or other collaborators.

The decision-making system in Chinese companies show indication of high power distance as there is typically seniority involved. The Finnish companies, on the other hand have some more flexibility in their decision-making at least based on how they describe it. However, the development is directed holistically from top through strategy, plans and roadmaps, which might be expected from a culture that has higher uncertainty avoidance, as such practices might mitigate better possible risks.

Finally, if I look at different levels of analysis, as presented first in the data description chapter 3.4 in Table 3 and Table 4, and the discussion in chapter 3.5, where the focus was in the general application of subcategory level of management practices, followed by Table 9 in chapter 5.1, where the focus is in evaluating the existence of practices in companies in a conceptual level, and finally Table 10, where the practices were analyzed on a deeper level, it is possible to see a curious pattern: it seems that the deeper one goes in analyzing the practices, the more differences start to emerge. On the superficial level practices might seem quite similar, but they might be essentially very different from each other. While this might not be anything ground-breaking, this still is perhaps the most important practical finding that highlights the importance of looking past the initial conception of what takes place in the companies. Understanding this is essential for leaders and managers as it emphasizes the need to be very reflective about the assumptions made on what takes or should take place in managing innovation activities.

Comparing the results to existing literature and previous research is unfortunately difficult as there is only very limited research in studying explicit innovation management practices

either in China or Finland. Rauch and Hatak (2016) highlight the importance of empowerment-enhancing HRM practices for increasing innovation efficiency. Finnish companies in this study also consider such practices the most important management practices to facilitate innovation. This is an interesting to notice as it shows that the Finnish companies have internalized at least to some extent the findings from research. However, also Chinese companies exhibit practices to encourage proactivity, which also increases empowerment of the individuals.

Additionally, for example Tjosvold, Yu and Wu (2009) studied the impact of teamwork to empowering individual employees in China and found that conflict management practices in teams helped the individuals to be more innovative. This study adds to this knowledge by highlighting different teamwork-promoting practices that would be beneficial for these findings, such as by showing that it is important pay attention to the information-sharing practices in China as well.

Inkinen, Kianto and Vanhala (2015) found that different knowledge management practices are useful in increasing innovation performance in Finnish companies. Such practices are strategic management of knowledge and competence, compensation practices that are based on knowledge of the employees and utilization of information technology in knowledge management. However, they also found that there was no direct correlation between knowledge-based training and innovation performance, which is somewhat contradicting Jain (2016). This study highlights that knowledge management practices and learning promotion are utilized in Finnish and Chinese companies and shows that learning and training are utilized in order to develop innovations, which indicates that regardless of Inkinen, Kianto and Vanhala's (2015) findings the companies still consider such practices at least somewhat important.

European Union's Horizon 2020 project provided best practice guide for industrial innovation (Horizon 2020 Industrial Innovation Best Practices, 2017), which highlights for example the importance utilizing innovation models and tools and having clear and supportive innovation process and management. One of the main innovation models involved co-operation with the customers for creating superior innovations. The Chinese and Finnish studies emphasized the customer collaboration in many cases, which shows that some of the best practices are in use. The Finnish companies that were studied in this thesis showed strong signals of stage-gate models for decision-making, which is also promoted by the

Horizon 2020 Industrial Innovation Best Practices (2017). The decision-making processes were more inclusive in the Finnish companies, which suggests that this enhances the innovation processes as well (Olson, Walker & Ruekert, 1995). The Chinese companies, on the other hand, did not exhibit stage-gate model: it is possible that such decision-making process is not completely applicable in Chinese companies, which calls for further research.

5.3. Innovativeness of the Companies

Although the studied practices have theoretical validity for innovation facilitation, the effectiveness of innovation activities has not been examined in this study. The larger companies, particularly in the case of Finnish companies in this study, typically select their practices based on some industrial standards, and therefore are validated as 'good' practices at least to some degree. Nevertheless, it is difficult to conclude whether individual practice is good or not, especially given the expectation that there should be better understanding about the bundles of HRM practices (e.g. Becker & Gerhart, 1996; Subramony, 2009).

However, some indication for the level of innovativeness of these companies can be provided by their own self-assessment of the innovativeness. This was asked from the companies, and all but one provided a clear, numerical answer. Moreover, the self-described organizational culture was evaluated against the innovativeness of the company, and the strength of the culture was further assessed by another question on how similar the culture would be perceived in the company. The findings for these are displayed in Table 11.

Five out of the six companies describe their company to be more innovative than their competitors. Moreover, the same companies consider that their culture is helpful in being innovative. While it is difficult to assess the relative innovativeness of the companies, there are some signs that this is the case. Out of 33 possible innovation-enhancing practices, the companies had following amount of different practices identified:

- OEM Company 1_CN: 6
- Smart City Company 2_CN: 14
- Site Remediation Company 3_CN: 22
- Elevator Company 1_FI: 13
- Cargo Handling Company 2_FI: 16
- Power Equipment Company 3_FI: 12

There is a clear difference between the different innovation-enhancing management practices used in the companies. It seems reasonable to assume that the more different management practices exist in the company, the more innovative the company is as well.

Table 11: Innovativeness of the companies and their organizational cultures

Company	Management practices	Self-described level of innovation	Strength of culture	Culture description
OEM Company 1_CN	6	"Irrelevant" – but not high	2	Doesn't help with developing business but helps to operate well
Smart City Company 2_CN	14	4	4	Culture helps with innovation
Site Remediation Company 3_CN	22	3,5	3	Culture helps to be innovative
Elevator Company 1_FI	13	5	3	Culture helps to be innovative, but processes are long
Cargo Handling Company 2_FI	16	4	4	Whether culture helps or not depends on the team and geographical location
Power Equipment Company 3_FI	12	5	3	Considers to be a forerunner and helps with innovativeness

The second column indicates the total number of innovation-enhancing management practices identified in the companies while the maximum number of different practices is 33. The third column contains the numerical estimation of the innovativeness of the company compared to competitors based on the self-assessment in the range of 1-5, 1 being the lowest and 5 being the highest. The fourth column provides the numerical strength of the culture in the same range; the assessment of the strength was done by the author based on the interviewees' description of the culture or by deduction from the interviews. The fifth column provides short description provided by the interviewees.

Innovative companies also perceive that their organizational culture helps with being innovative. Surprisingly, at least based on the number of different practices, Site Remediation Company 3_CN considers itself to be less innovative than most other companies at least compared to its competitors. This might either be caused by reluctance or inability to see the innovativeness, but also because the question that was asked was relative in the industry: the industry of the company might simply be very innovative. Site Remediation Company 3_CN mostly described the culture beginning to help to be innovative but as the company was so young, the development towards this was still ongoing. If we look at the strength of the culture, it seems that at least two companies, Smart City Company 2_CN and Cargo Handling Company 2_FI have quite strong cultures. Elevator Company 1_FI found that the culture is developing slowly, but the goal should be that the culture helps with being innovative significantly, while Power Equipment Company 3_FI described the ongoing process of renewing the culture in the organization. In summary, it seems that this study shows that the more innovative companies also have more innovative organizational cultures, which is also suggested by Ahmed (1998).

5.4. Limitations

As has been clear in this study, there are many problematic issues in the analysis, which means that the findings have only very limited applicability in other cases. The main contribution of this study has been throughout the research the gradual uncovering of the differences in order to direct further research towards this. Whether this is a successful or failed attempt depends on the validity and reliability of the research. Therefore, it is important to discuss about the limitations of the study to understand better how the conclusions in the previous chapters could be interpreted. Most limitations concern the unfortunate, but possibly quite typical problem of the limited data.

First of all, there is always the question whether the data is sufficient to draw any conclusions even in a qualitative research. In this case, the main drawback is that there was only one interview conducted for each company. Limiting the research in this way was practical because of the lack of better access to the companies, but also to be able to carry out the research effectively and to be able to write the thesis in time. However, it is more than possible that the interviews and the data reflect the opinions of the individual interviewees instead of the views of the companies. Had there been multiple, or at least two, different interviewees in each company, there would have been better chances to gain understanding of the actual organizational features as it would have been easier to exclude individual attitudes towards the topic. Moreover, even two interviews would have also negated the impacts of poorly conducted interview, tired interviewee or interviewer, and other variables that could have been present in an individual interview. In summary, increasing the number of interviewees in each company would have raised the quality of the data.

In order to tackle this problem, I naturally aimed to design as good an interview template as possible, and also to try to uncover actual attitudes towards the innovation facilitation through interpreting the interviewees' meaning. This, unfortunately, creates another issue: how to interpret the answers. The main idea was to balance between these two problems with the quality of the data by being very selective about the interpretations of the data and limiting personal interpretation only to the cases where it can be objectively justified. There was a conscious attempt to criticize my own personal assumptions of the interpretation or of the cases, which hopefully has increased the quality of the data. While I believe it was possible to balance between these two problems, it always remains to be susceptible to criticism.

Another aspect of the quality of the data is the use of non-native language: English. Especially with the Chinese companies there most likely was at least some problems with expressing the feelings and attitudes in English language. The reason for using English is clear: the lack of Chinese knowledge by the interviewer. In one interview, there was an interpreter present, but as the interpreter was not a professional one, there might have been even more room for misunderstandings. In the case of Finnish companies, the language used was Finnish and as the interviewer was Finnish as well, so it was easier to grasp subtle meanings of ways of speech and also have a better understanding of underlying cultural features. This might have provided better chances for understanding deeper concepts of the topic and therefore might have provided better quality for answers. In the case of Finnish companies, two out of three interviews were conducted online and without possibility for face-to-face interaction, which makes interpreting the answers slightly more difficult. However, to help with this problem with the quality of the data and have it as comparable as possible between the two countries, I tried to limit the interpretation with the Finnish companies as much as possible while simultaneously be more open to what has been said by the Chinese interviewees.

It is also possible that the data might have been tainted due to the sensitivity of the topic. Innovations and R&D are generally quite sensitive and contain organizations' business secrets. Therefore, it is possible that the interviewees could have been reluctant for expressing some of the answers. For example, Smart City Company 2_CN provided written answers to accompany the interviews, and when the main interviewee was not present, there was an assistant to direct the answers from the other interviewees. Power Equipment Company 3_CN was seemingly reluctant to provide answers in some questions. These illustrate examples that it is still questionable whether the interview data provides full and clear picture about the topic. However, I aimed to be as explicit as possible about how the data will be used, and in general, I considered the interviews to be quite reliable. Also, the behavior norms in China are quite different than the ones in Finland. The Chinese tend to be more cooperative due to their collective culture and therefore they might appear more conformist in their views regarding the company policies. However, especially OEM Company 1_CN and Site Remediation Company 3_CN seemed to be quite open in their answers. Both Chinese and Finnish interviewees might have also tried to provide 'correct' answers in the questions. I tried to mitigate these concerns by applying the semi-structured interview

methods, which would be more suitable for uncovering the true opinions of the interviewees as suggested by Bryman and Bell (2007: 477).

As the purpose is to compare companies in two different countries, there is an apparent problem. Even in the case of Finland, there are numerous differences between regions, people, background and attitude of the people, which makes it difficult to find representative companies for the company. While the methodology allows selecting 'theoretically relevant cases' it is questionable how this criterium can be met. Even more difficult is the case with Chinese companies: China is a massive country and comparable perhaps to Europe rather than Finland. While the country is uniform in many ways, there are still extremely large differences between different areas and the local habits, which was briefly discussed in chapter 4.2.4. Moreover, especially since China is developing so rapidly, it is important to remember that the cultural dimensions might change as well, although most likely the cultural change is slower.

The interviewed companies were from Shanghai/Shandong province and Beijing. Particularly Shanghai and Beijing are very atypical from an 'average' Chinese region, and therefore might not be wholly representative of the country. Moreover, these areas are more developed and thus could be more subjected to global ideas of the innovation management. By comparing the Chinese companies to the European context, is it possible to draw conclusions about European companies merely based on Finnish companies? I think this is a valid point of criticism and there is no answer to this. In any case, regardless of the amount of available data, it would be necessary to conduct a significantly wider research to answer any of the questions comprehensively and satisfactorily.

Having different companies to research would indicate that the practices in these companies are very different already due to the different nature of the companies' business logic. The reason for these companies was access: these companies were available during the short time spent in China. While I do not believe the results are completely irrelevant, there is a shroud of doubt in interpreting the results especially concerning the Chinese companies.

The research design of this study allowed me to create different labels from theory and from the interview data as well. This creates a problem: are there enough categories and labels, and how do they overlap with each other? There is always a possibility for adding more categories and labels based on the understanding of the researchers and the theories

utilized in the study. I aimed to be quite liberal in utilizing different labels based on both theory and data. This made sure that at least I should not miss any important themes in the analysis phase. The main issue created by this is the fact that there are some similar labels in the data, such as 'Application of knowledge' label in Innovation processes subcategory and 'Recombination of knowledge' in Knowledge acquisition subcategory. Moreover, are the labels categorized correctly? Especially the different subcategories are overlapping significantly, for example it is difficult to say where does General policies and support end and where Autonomy of employees or teams starts. This means that there might be significant pitfalls in the analysis, although naturally I tried to avoid as many of these as possible while understanding that resolving this might be impossible at least in the scope of this study. To tackle this, I should have been able to focus on the definitions of different labels more, which would be needed should there be further studies in this field.

As discussed in chapter 2.1, there are multiple different aspects related to innovations. I have addressed, for example, corporate entrepreneurship, HRM practices, and business systems and culture. However, this still does not consider the organizational structure, the role of creativity, personal traits of a typical innovator, or many other factors. Studying innovations is extremely complex, and therefore there always remains a doubt whether every side is accounted for – most likely not.

Finally, there is a quite valid criticism towards grounded theory building, which has endemic limitations as discussed above. The methodology requires that the researchers restrict themselves from trying to apply theories or concepts until the later stages of the analysis (Bulmer, 1979; Bryman & Bell, 2007: 591). This problem was apparent in my study as well, and I might have failed to some degree in this aspect as I tried to identify relevant practices from theoretical standpoint. However, I believe this might not have been too problematic as this was done simultaneously with analyzing the interview data. Moreover, during the data analysis, many labels emerged based on the interview data and, on the other hand, quite a few practices were not identified as was discussed in chapter 3.4.1.

6. Final Remarks

6.1. Notions on the Ethical Issues of the Study

This study has been done in order to increase the knowledge on what companies do to stay competitive in an ever-changing world. Particularly, the focus has been on what kind of different approaches companies adopt in different countries to address this pressure from the market. What has become evident, is that all kinds of companies want to stay competitive through various forms of innovations – whether they call it an innovation or not. Looking at the definition in the chapter 2.2, what constitutes an innovation is something new that is commercialized in some form. The new can be a product, a service, a process, a business model or anything else, as long as it leads to an organizational capability that can be commercialized. All of the interviewed companies exhibited constant anxiety that the market requires something new all the time – most likely for a good reason. Therefore, this study has provided some good starting points for further research to understand better what kind of innovation-enhancing management practices should be applied in order for them to be successful in different cultural settings, and eventually to be able to find factors that could impact in successful innovations.

Before looking at some implications to practice and what kind of further research this study has prompted, it is important have a brief look at the ethical issues this study has raised. Perhaps the most important relationship in this study has been the relationship between the interviewer and researcher, and different interviewees. There are always concerns of ethical issues in these forms of researches, as described by Bryman and Bell (2007: 132). Especially important things to address is whether the conduct of the study has caused some harm to the interviewees or have they given sufficient consent to be part of the research.

First of all, this study has been anonymous both for the interviewees and the interviewed companies. This issue has been discussed with the interviewees and only one of the companies wanted to remain completely anonymous. Therefore, I decided to keep all the companies anonymous in order to have comparable reporting for all of the companies. This approach, however, enabled me to take care of the privacy of the interviewees as well, and at no point no one else has been able to know who the interviewees are besides myself and the instructor of the thesis. Having anonymous interviewees and anonymous companies will limit possibilities to have some negative impact either on the companies or on the

interviewees themselves although it might reduce some validity of the research. Secondly, in the research design I made sure to be very explicit about the use of the interview data in the research, and none of the interviewees seemed to not understand this clearly. Both companies and interviewees were voluntary, and besides two cases, the interviewees were directly contacted by me and therefore were not selected by the company. In summary, I believe that the companies nor interviewees could not have encountered any harm from this research or the publication of it.

6.2. Implications to Management Practices

Hope Hailey (2001: 1139) has pointed out that it is difficult for many people to focus on long term thinking, creativity and independence since their main motivation in their daily activities is in ensuring the continuation of the business and delivering short-term results. Applying any kind of research results to practice is therefore rather difficult a task. The results should be easy to understand and easy to apply, but this is rarely the case with complex research.

The results in this thesis provide some interesting implications for management practice. They can be used as a benchmark at least with the common practices: as the study showed some indications on what kind of management practices are utilized in China and Finland, other companies operating or aiming to operate in these regions could benchmark these results at least to some extent. For example, it is important to emphasize the empowerment of people in the Finnish companies and create strict processes for innovation and knowledge acquisition in Chinese companies. While there is still much to learn about the innovation-enhancing management practices in China and Finland and no comprehensive framework could be provided, the criteria for applying results in practice are generally lower than what they are in a scientific study.

Additionally, the results show some indications of what is considered to be important for innovations in different cultural settings and show that the same management practices are not equally effective in different countries. Thus, firms working in different countries need to modify their innovation-enhancing management practices in different countries. Managers are thus encouraged to try to avoid some of the practices that are not generally in use in a particular country, as they might not be as applicable in given culture as some other practices. For example, leaders might want to try to mitigate the impact of having less trust in employees in Chinese companies and thus increase the innovation odds in the company.

When prioritizing different collaboration activities in China, one possibly wants to create few, close, long-term relationships whereas in Finland it might be sufficient to have mostly *ad hoc* relationships. Applying new management practices typically takes time and effort, and therefore this study might provide some insights into the prioritization problems that are constant in continuously evolving business world.

Moreover, because typically smaller companies have less possibilities to utilize a wide spectrum of different management practices, the study also provides some, valid starting points for such companies. The focus has been on larger companies, and it is still questionable whether they were large enough especially in the case of Chinese companies. Nevertheless, aspiring Chinese small or SME companies might take a note on what kind of practices are considered to be useful in other Chinese, and also try to see if some of the Finnish practices could be utilized as well: it may well be that these practices could work on some Chinese companies. The same is true vice versa as well.

6.3. Further Research

Finally, I will address some interesting points for future research. This qualitative exploratory study like most similar studies uncovers many interesting topics for further research which we encourage to be more systematically explored.

This study has provided some insights into what kind of management practices are generally utilized in Chinese and Finnish companies, and also to the differences between the companies in these two countries. However, one aspect this study has not addressed is the impact of different management practices related to innovation, i.e. how much the practice contributes to the innovation facilitation. This would require a quantitative study. Research on different practices that would have positive impact to innovation are plentiful, and there is research also on the organizational aspects to it. For example, Foss, Laursen and Pedersen (2011), studied the organizational differences concerning customer co-creation and noticed that organizational practices mediate the link between customer knowledge and innovation. This shows that it is not just the practices, but the context must be taken into account. Besides organization, also the business system and culture impact how the practices can be utilized and vice versa. Such research is far beyond the scope of this study, but this thesis shows that there are at least some cultural indications relating to the approaches to innovation practices. Thus, it would be interesting to research on what kind of innovation

practices are effective when taking the organizational structure and behavior, and organizational and national culture into account.

As discussed in chapter 5.2, there are some indications from the culture, which can explain some of the differences in practices. It does not show, however, what kind of practices are particularly useful in different cultures but instead shows what practices are in place. Whether the practices work in the culture, it would be important to study more on the effects of such practices in different circumstances and different cultures and see whether the culture is a critical factor. Moreover, it would be very interesting to start to get some sort of an understanding into what kind of management practices would show causality to facilitate innovation regardless of the culture. The problem is that many management practices are typically based on Western experiences and studies, and not all of them would encounter similar results in very different cultures – this would also require larger sample for a study. However, if it was possible to identify some practices that seem to be effective in any, or in many, cultural settings, this would provide great insights especially for multinational companies or for organizations that are crossing borders: it would provide a great starting point for innovation practices in a new country as well.

References

Abernathy, W. J., & Clark, K. B. (1985). Innovation: Mapping the winds of creative destruction. *Research Policy, 14*, 3–22.

Abernathy, W. J., & Utterback, J. M. (1978). Patterns of Industrial Innovation. *Technology Review, 80*(7), 40–47.

Abou-Zeid, E.-S., & Cheng, Q. (2004). The Effectiveness of Innovation: A Knowledge Management Approach. *International Journal of Innovation Management, 8*(3), 261–274.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Chapter 6 Institutions as a Fundamental Cause of Long-Run Growth. In *Handbook of Economic Growth* (Vol. 1, pp. 385–472). Elsevier. https://doi.org/10.1016/S1574-0684(05)01006-3

Afuah, A. (2003). *Innovation Management Strategies*. Oxford University Press.

Ahmed, P. K. (1998). Culture and climate for innovation. *European Journal of Innovation Management, 1*(1), 30–43.

Ahuja, G. (2000). Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study. *Administrative Science Quarterly, 45*, 425–455.

Alge, B., Ballinger, G., Tangirala, S., & Oakley, J. (2006). Information privacy in organizations: Empowering creative and extrarole performance. *Journal of Applied Psychology*, *91*, 221–232.

Amabile, T. M. (1988). A Model of Creativity and Innovation in Organizations. *Research in Organizational Behavior*, *10*, 123–167.

Angle, H. L. (2000). Psychology and organizational innovation. In *Research on the management of innovation – The Minnesota studies*, edited by Van de Ven, A. H., Angle, H. L. & Poole, M. S. Oxford University Press.

Angle, H. L., & Van de Ven, A. H. (2000). Suggestions for managing the innovation journey. In *Research on the management of innovation – The Minnesota studies*, edited by Van de Ven, A. H., Angle, H. L. & Poole, M. S. Oxford University Press.

Becker, B., & Gerhart, B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal, 39*(4), 779–801.

Bird, A., & Mendenhall, M. E. (2016). From cross-cultural management to global leadership: Evolution and adaptation. *Journal of World Business, 51*(1), 115–126. https://doi.org/10.1016/j.jwb.2015.10.005

Boisot, M., Child, J. & Redding, G. (2011). Working the System. *International Studies of Management & Organization, 41*(1), 62–95.

Braun, V., & Clarke, V. (2008). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Bruyat, C., & Julien, P.-A. (2000). Defining the field of research in entrepreneurship. *Journal of Business Venturing, 16*, 165–180.

Bryman, A., & Bell, E. (2007). *Business research methods* (2nd ed). Oxford: Oxford University Press.

Bull, I., & Willard, G.E. (1993). Towards a theory of entrepreneurship. *Journal of Business Venturing, 8*(3), 183–195.

Bulmer, M. (1979). Concepts in the Analysis of Qualitative Data. *The Sociological Review*, *27*(4), 651–677. https://doi.org/10.1111/j.1467-954X.1979.tb00354.x

China Statistical Yearbook 2018. Beijing: China Statistics Press. Accessible at: http://www.stats.gov.cn/tjsj/ndsj/2018/indexeh.htm

Christensen, C.M. (1997). *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Harvard Business Review Press.

Christensen, C.M., & Raynor, M.E. (2003). *The Innovator's Solution*. Boston: Harvard Business School Press.

Christensen, C.M., Raynor, M.E., & McDonald, R. (2015). What Is Disruptive Innovation? *Harvard Business Review, December*.

Cooper, R.G. (1990). Stage-Gate Systems: A New Tool for Managing New Products. *Business Horizons, 33*(3), 44–54.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21.

Cunningham, J.B., & Lischeron, J. (1991). Defining Entrepreneurship. *Journal of Small Business Management, 29*(1), 45–61.

Damanpour, F. (1991). Organizational Innovation: A Meta-analysis of Effects of Determinants and Moderators. *Academy of Management Journal, 34*(3), 555–590.

Darroch, J., & McNaughton, R. (2002). Examining the link between knowledge management practices and types of innovation. *Journal of Intellectual Capital, 3*(3), 210–222.

Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A reconceptualization. *Journal of Business Venturing, 30*, 674–695.

Delery, J.E. (1998). Issues of fit in human resource management: Implications for research. *Human Resource Management Review, 8*, 289–310.

Dewar, R.D. & Dutton, J.E. (1986). The adoption of radical and incremental innovations: an empirical analysis. *Management Science, 32*(11), 1422–1433.

Drucker, P. F. (2002). The discipline of innovation. *Harvard Business Review,* August. Reprint from Drucker, P.F. 1991. In *Innovation*, edited by *Harvard Business Review*. Cambridge, MA: Harvard Business School Press

Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *The Academy of Management Review*, *14*(4), 532-550. https://doi.org/10.2307/258557

Eriksson, P., & Kovalainen, A. (2008). *Qualitative Methods in Business Research*. 1 Oliver's Yard, 55 City Road, London England EC1Y 1SP United Kingdom: SAGE Publications Ltd. https://doi.org/10.4135/9780857028044

Eriksson, T., Qin, Z., & Wang, W. (2014). Firm-level innovation activity, employee turnover and HRM practices — Evidence from Chinese firms. *China Economic Review*, *30*, 583–597. https://doi.org/10.1016/j.chieco.2014.02.005

Ettlie, J.E., Bridges, W.P. & O'Keefe, R.D. (1984). Organization strategy and structural differences for radical versus incremental innovations. *Management Science, 30*(6), 682–695.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development. *International Journal of Qualitative Methods, 5*(1), 80–92. https://doi.org/10.1177/160940690600500107

Fleming, L., & Sorenson, O. (2001). Technology as a complex adaptive system: evidence from patent data. *Research Policy, 30*(7), 1019–1039. https://doi.org/10.1016/S0048-7333(00)00135-9

Flynn, B.B., Schroeder, R.G., & Sakakibara, S. (1995) The Impact of Quality Management Practices on Performance and Competitive Advantage. *Decision Sciences, 26*(5), 659–691.

Foray, D. (1997). Generation and distribution of technological knowledge: incentives, norms and institutions. In *Systems of innovation*, edited by Edquist, C., 64–85. London: Pinter.

Foss, N. J., Laursen, K., & Pedersen, T. (2011). Linking Customer Interaction and Innovation: The Mediating Role of New Organizational Practices. *Organization Science, 22*(4), 980–999. https://doi.org/10.1287/orsc.1100.0584

Foster, R. N. (1987). *Innovation: the attacker's advantage*. New York: Summit.

Fuchs, S. (2010). Critical Issues in People Resourcing (1): Reconceptualising Employee Performance. In *Critical Issues in Human Resource Management*, edited by Roper, I., Prouska, R. & Chatrakul Na Ayudhya, U., 143–160, London: Chartered Institute of Personnel and Development.

Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding Theory–Method Fit: A Comparison of Three Qualitative Approaches to Theory Building. *Journal of Management Inquiry*, *27*(3), 284–300. https://doi.org/10.1177/1056492617706029

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods, 16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory*. Chicago: Aldine.

Glaser, B. G., & Strauss, A. L. (2006). *The discovery of grounded theory: Strategies for qualitative research* (4. paperback printing). New Brunswick: Aldine.

Henderson, R. M., & Clark, K. B. (1990) Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms. *Administrative Science Quarterly, 35*(1), 9–30.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Hofstede, G. (1984). Cultural Dimensions in Management and Planning. *Asia Pacific Journal of Management, 1*(2), 81–99.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind. Intercultural cooperation and its importance for survival (3rd ed)*. McGraw-Hill.

Hope Hailey, V. (2001). Breaking the mould? Innovation as a strategy for corporate renewal. *International Journal of Human Resource Management, 12*(1), 1126–1140.

Horizon 2020 Industrial Innovation Best Practices. (2017) Industrial Innovation in Transition (IIT) Deliverable D2.5 Innovation Best Practices Report, 14 Jul 2017. Accessible at: http://www.iit-project.eu/wp-content/uploads/2017/09/D-2.5-Innovation-Best-Practices-Report-1.pdf

House, R., Javidan, M., Hanges, P., & Dorfman, P. (2002). Understanding cultures and implicit leadership theories across the globe: An introduction to project GLOBE.

Journal of World Business, 37(1), 3–10. https://doi.org/10.1016/S1090-9516(01)00069-4

Huselid, M.A. (1995). The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance. *Academy of Management Journal, 38*(3), 635–672.

Inkinen, H. T., Kianto, A., & Vanhala, M. (2015). Knowledge management practices and innovation performance in Finland. *Baltic Journal of Management, 10*(4), 432–455.

Jain, R. (2014). Innovation Promotion Strategies: A Conceptual Framework. *South Asian Journal of Management, 21*(2), 44–70.

Jain, R. (2016). Innovation Management: Conceptualization for Practice & Research. *The Indian Journal of Industrial Relations, 52*(2), October.

Jiménez-Jiménez, D., & Sanz-Valle, R. (2008). Could HRM support organizational innovation? *International Journal of Human Resource Management*, *19*(7), 1208–1221. https://doi.org/10.1080/09585190802109952

King, W. R., & Marks Jr., P. V. (2008) Motivating knowledge sharing through a knowledge management system. *Omega, 36*(1), 131–146.

Kirkman, B., Rosen, B., Tesluk, P., & Gibson, C. (2004). The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *Academy of Management Journal, 47*, 175–192.

Kirzner, I.M. (1983). Entrepreneurs and the entrepreneurial function: commentary. In Ronen, J. (ed), *Entrepreneurship*, 281–290. Lexington, MA: Lexington Books, D.C. Heath.

Kuratko, D. F., Hornsby, J. S., & Covin, J. G. (2014). Diagnosing a firm's internal environment for corporate entrepreneurship. *Business Horizons, 57*, 37–47.

Laursen, K., & Foss, N. J. (2003). New human resource management practices, complementarities and the impact on innovation performance. *Cambridge Journal of Economics*, *27*(2), 243–263. https://doi.org/10.1093/cje/27.2.243

Lee, C.-Y. (2010). A theory of firm growth: Learning capability, knowledge threshold, and patterns of growth. *Research Policy, 39*, 278–289.

Locke, E. & Latham, G. (1990). Work motivation and satisfaction: Light at the end of the tunnel. *Psychological Science, 1*(4), 240–246.

March, J. G. (1991). Exploration and Exploitation in Organizational Learning. *Organization Science, 2*(1), 71–87.

Mathieu, J. E., Gilson, L. L., & Ruddy, T. M. (2006). Empowerment and team effectiveness: An empirical test of an integrated model. *Journal of Applied Psychology, 91*, 97–108.

McGinnis, M. A., & Ackelsberg, M. R. (1983). Effective Innovation Management: Missing Link in Strategic Planning? *Journal of Business Strategy*, *4*(1), 59–66. https://doi.org/10.1108/eb039007

Morgan, G. (2007). National business systems research: Progress and prospects. *Scandinavian Journal of Management, 23*, 127–145.

Mowery, D. C., Oxley, J. E., & Silverman, B. S. (1996). Strategic Alliances and Interfirm Knowledge Transfer. *Strategic Management Journal, 17*, 77–91. Retrieved from JSTOR.

Nonaka, I. (2007). The Knowledge-Creating Company. *Harvard Business Review, (July–August 2007)*. Retrieved from https://hbr.org/2007/07/the-knowledge-creating-company

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: how Japanese companies create the dynamics of innovation*. New York: Oxford University Press.

O'Connor, G.C. & DeMartino, R. (2006). Organizing for Radical Innovation: An Exploratory Study of the Structural Aspects of RI Management Systems in Large Established Firms. *Journal of Product Innovation Management, 23*, 475–497.

O'Sullivan, D. & Dooley, L. (2009). *Applying innovation*. Thousand Oakes, CA: SAGE Publications.

OECD/Eurostat (2018), *Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation, 4th Edition*, The Measurement of Scientific, Technological and Innovation Activities. OECD Publishing, Paris/Eurostat, Luxembourg. https://doi.org/10.1787/9789264304604-en

Olson, E. M., Walker, O. C., & Ruekert, R. W. (1995). Organizing for Effective New Product Development: The Moderating Role of Product Innovativeness. *Journal of Marketing, 59*(1), 48–62.

Peccei, R., & Rosenthal, P. (2001). Delivering customer-oriented behavior through empowerment: An empirical test of HRM assumptions. *Journal of Management Studies, 38*, 831–857.

Pereira, V., Malik, A., & Froese, F. J. (2017). Mapping the impact of Asian business systems on HRM and organisational behaviour: Multi-level comparative perspectives. *Journal of Asia Business Studies*, *11*(3), 253–261. https://doi.org/10.1108/JABS-09-2016-0130

Peverelli, P.J., & Song, J. (2012). *Chinese Entrepreneurship: A Social Capital Approach*. Berlin: Springer-Verlag.

Porter, M.E. (1990). *The Competitive Advantage of Nations*. New York: Free Press.

Powell, W.W., & Grodal, S. (2005). Networks of innovators. In *The Oxford Handbook of Innovation*, edited by Fagerberg, J., Mowery, D. C. & Nelson, R. R. Oxford University Press.

Rauch, A., & Hatak, I. (2016). A meta-analysis of different HR-enhancing practices and performance of small and medium sized firms. *Journal of Business Venturing*, *31*(5), 485–504. https://doi.org/10.1016/j.jbusvent.2016.05.005

Redding, W., & Witt, M. A. (2009). China's business system and its future trajectory. *Asia Pacific Journal of Management, 26*(3), 381–399.

Rock, I., & Palmer, S. (1990). The legacy of Gestalt psychology. *Scientific American, 263*(6), 84–90.

Rothbard, M.N. (1995). *An Austrian perspective on the history of economic thought, volume I (economic thought before Adam Smith)*. Auburn, AL: Ludwig von Mises Institute.

Schumpeter, J.A. (1934). *The theory of economic development, Chapter II: The fundamental phenomenon of economic development*. Cambridge, MA: Harvard University Press.

Schumpeter, J.A. (1936). *The Theory of Economic Development, Second Edition*. Cambridge, MA: Harvard University Press.

Shipton, H., West, M. A., Dawson, J., Birdi, K., & Patterson, M. (2006). HRM as a predictor of innovation. *Human Resource Management Journal, 16*(1), 3–27.

Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review, 25*(1), 217–226.

Subramony, M. (2009). A meta-analytic investigation of the relationship between HRM bundles and firm performance. *Human Resource Management*, *48*(5), 745–768. https://doi.org/10.1002/hrm.20315

Tjosvold, D., Yu, Z., & Wu, P. (2009). Empowering Individuals for Team Innovation in China: Conflict Management and Problem Solving. *Negotiation and Conflict Management Research, 2*(2), 185–206.

Trompenaars, F., & Hampden-Turner, C. (1998). *Riding the waves of culture*. New York: McGraw-Hill.

Tsai, W. (2001). Knowledge Transfer in Intraorganizational Networks: Effects of Network Position and Absorptive Capacity on Business Unit Innovation and Performance. *Academy of Management Journal, 44*(5), 996–1004.

Tushman, M. L., & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly, 31*, 439–465.

Van Gelderen, M. (2017). Taking Enterprising Action. Retrieved from: http://www.enterprisingcompetencies.com/uploads/1/5/9/7/15971972/taking_action_2017.pdf (accessed on 8.1.2018).

Whitley, R. (1992a). *East Asian business systems*. London: Sage.

Whitley, R. (Ed.). (1992b). *European business systems*. London: Sage.

Whitley, R. (2000). The Institutional Structuring of Innovation Strategies: Business Systems, Firm Types and Patterns of Technical Change in Different Market Economies. *Organization Studies, 21*(5), 855–886.

Williams, C. (2011). Research Methods. *Journal of Business & Economics Research (JBER)*, *5*(3), 65–72. https://doi.org/10.19030/jber.v5i3.2532

Witt, M. A. & Redding, G. (2013). Asian Business Systems: Institutional Comparison, Clusters, and Implications for Varieties of Capitalism and Business Systems Theory. *Socio-Economic Review, 11*(2), 265–300.

Witt, M. A., Kabbach de Castro, L. R., Amaeshi, K. M., Mahroum, S., Bohle, D., & Saez, L. (2018). Mapping the business systems of 61 major economies: a taxonomy and implications for varieties of capitalism and business systems research. *Socio-Economic Review, 16*(1), 5–38. Accessible in SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2660126

Wood, S.J., & Wall, T.D. (2007). Work enrichment and employee voice in human resource management-performance studies. *International Journal of Human Resource Management, 18*(7), 1335–1372.

Zahra, S. A. (1991). Predictors and Financial Outcomes of Corporate Entrepreneurship: An Exploratory Study. *Journal of Business Venturing, 6*, 259–285.

Zahra, S. A., Jennings, D. F., & Kuratko, D. F. (1999). The Antecedents and Consequences of Firm-Level Entrepreneurship: The State of the Field. *Entrepreneurship Theory and Practice*, *24*(2), 45–65. https://doi.org/10.1177/104225879902400205

Appendix 1 – Interview Protocol

A) Introduction

1. First of all, is it ok if I record the interview? The recording will be used only in this research and in nothing else.
2. Could you tell me your name and what do you do in the company X?
3. I just want to clarify: do you want to participate in the study? If you feel at any point that you don't want to answer to the questions, just let me know and we will either stop the interview or move on to the next question.
4. Do you have any questions at this point?

B) General questions

5. How do you define innovation?
6. Could you describe a common process to develop innovative products or services?
7. What kind of innovations does your company create?
8. How is it decided what innovations are pursued?
9. How does the company make sure that those innovations are pursued?
10. Could you give me one or two examples of innovations that have occurred in your company?
11. How did these innovations were created and what helped to generate them?
12. What five words would you use to describe your organizational culture?
13. If I asked 10 other people in your organization this same question, how similar these five words would be?
14. Do you think company culture helps you to be innovative? How?
15. On a scale from 1 (lowest) to 5 (highest), how innovative do you think your company is compared to your competitors?
16. How much do you spend annually in R&D?
17. Do you think the amount of money spent to R&D has a critical impact to how successful your development of new innovations?

C) Facilitation of innovation

18. What do you think are the most important management practices to facilitate innovations?
19. In practice, what would you do to help your team to create more innovations?

20. How does the R&D know what products or services they should develop?
21. How does the R&D collaborate with other people in the company?
22. Do you encourage employees to innovate or be proactive with new ideas?
23. How do you empower them to be proactive and pursue innovations?
24. Can you tell me how do you train people to come up with new ideas?
25. What kind of rewards or recognitions do you offer for innovative employees or teams?
26. How do you distribute information about innovations and new development in your company?
27. How do you collect ideas that your employees have and want to share with their colleagues?
28. How high is the turnover of employees in your company or your team?

D) Monitoring/measurement

29. Could you describe how do you measure innovations?
30. How do you define successful innovation?
31. How do you react if employees take major risks to pursue new innovations?
32. If an employee makes mistakes in assessing risks or pursuing new innovations, how these situations are handled?
33. How do you define failed innovation?

E) Ending

34. Would you like to add something that has not been covered yet?
35. Do you have any questions?

Appendix 2 – Summary of the Interviewed Companies

OEM Company 1_CN

Year founded	1995
Number of employees	1,800
City based in	Jining, Shandong Province, People's Republic of China
Industry	Automotive industry, manufacturing car parts
Revenue (2018)	RMB 0.67bn
Interviewee	Vice General Manager

Smart City Company 2_CN

Year founded	1996
Number of employees	3,250
City based in	Shanghai & Beijing, People's Republic of China
Industry	Manufacturing and developing smart city equipment, renewable energy equipment
Revenue (2018)	RMB 6.1bn
Interviewees	Administrative Director; Chief Engineer and another experienced engineer

Site Remediation Company 3_CN

Year founded	2018 (parent: 2002)
Number of employees	130
City based in	Beijing, People's Republic of China
Industry	Soil remediation, environmental rehabilitation
Revenue (2017)	N/A (research institute; parent: RMB 9.6bn)
Interviewee	Chief Expert of Site Remediation

Elevator Company 1_FI

Year founded	1910
Number of employees	57,000
City based in	Helsinki, Finland
Industry	Manufacturing elevators, escalators and automatic doors
Revenue (2018)	EUR 9.1bn
Interviewee	Head of a Business Unit responsible for new businesses

Cargo Handling Company 2_FI

Year founded	1883
Number of employees	5,700
City based in	Helsinki, Finland
Industry	Manufacturing cargo handling equipment and automation
Revenue (2018)	EUR 1.6bn
Interviewee	Research team leader

Power Equipment Company 3_FI

Year founded	1834
Number of employees	19,000
City based in	Helsinki, Finland
Industry	Manufacturing energy and seafaring equipment
Revenue (2018)	EUR 5.2bn
Interviewee	Innovation Manager

Appendix 3 – Categories and Labels

Category	Sub-category	Label (bolded not used in companies)
Innovation activities	Innovation definition (what is innovation?)	Business model Commercialization Newness Processes Product or service
	Innovation processes (how to innovate?)	Application of knowledge Clear decision making Creativity Flexible decision making Incrementalism Sophisticated innovation procedures
	Opportunism	Opportunity recognition Opportunity action Responsiveness to technological development
Knowledge management	Knowledge acquisition	Internationalizing knowledge Learning from mistakes Many different knowledge sources Recombination of knowledge Socialization
	Knowledge transfer	Exchange of information in networks Rapid information transfer
	Data/information management	Innovation-related database Technology to spread knowledge Innovation tools
	Knowledge capabilities	Flexibility in knowledge management Market knowledge Scientific knowledge Technological knowledge
Collaboration	Internal collaboration	Collaboration between functions Teamwork
	External collaboration	Partnerships with international entities Solution-finding with customers Supplier collaboration University or research center collaboration
HRM	General policies and support	**Complaint resolution system** Enhancing intrinsic motivation **Formal grievance procedures** Job variety Motivating to innovate Promoting teamwork Providing enough time Team responsibility Support from top management Supporting experimenting **Supporting opportunity finding**
	Autonomy of employees or teams	Enabling autonomy **Encouraging feedback** **Encouraging self-reflection** Encouraging proactiveness Encouraging risk-taking Encouraging voicing opinions
	Training	Innovation training Promoting exploratory learning Routines for innovation implementation Job skills development
	Incentives and rewards	Enhancing extrinsic motivation
Culture	Organizational features	Decentralized decision-making **Flexibility of organizational boundaries** Long tenures and tacit knowledge Non-bureaucratic Non-hierarchical Organizational resiliency Sensitivity to market changes Strict processes
	Innovation facilitation	**Corporate entrepreneurship** Focus on need for change Situation evaluation