

# **Market entry in Chinese healthcare industry: An institutional perspective**

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<p>China, as the second largest global economy, is becoming increasingly important from the global perspective. This huge potential market has attracted many multinational enterprises to expand their territory, however breaking into the market can be challenging with limited business knowledge.</p> <p>Company A is a leading company in serving science, providing solutions to customers in various fields, such as life sciences, analytical fields and healthcare departments. System X is one of company A's innovation product lines, which aims to simplify the clinical laboratories' workflow by providing an automated solution. Guided by the corporate's strategic plan, system X is targeted to enter the Chinese clinical market, following its successful launch in Europe. This study uses institutional theory to explore the influencing factors for market entry in China and provide practical recommendations for system X's expansion plan.</p> <p>This study applies qualitative research approach and case study strategy. The data set consists of five semi-structured interviews with industrial experts and the data is analysed with thematic analysis. Additionally, data related to the Chinese healthcare industry is collected via secondary data collection based on official reports, documentations and publications.</p> <p>The study identifies that both formal and informal institutions are critical to consider when enter Chinese healthcare market. Several formal institutions have been highlighted, such as the trend of domestic manufacturing protection, importance of regulatory compliance and isomorphic pressure in the healthcare industry. In terms of the informal factors, the importance of relationship-building has been discovered, which is personal and long-term orientated. The role of customers has been suggested as a "value co-creator" instead of a "service receiver" to contribute to establish the brand image and make a positive influence on other users. Lastly, digitalization has provided more flexibility and variety in terms of connection channels, however it is not possible to replace the in-person connection completely during internationalization process.</p> <p>This study suggests that collaboration and partnership with local resources and organizations can help in minimizing the risks caused by the foreignness of system X during Chinese market entry. Meanwhile, management of company A needs to evaluate the effort in achieving product localization and maintaining global standardization to balance the market unique needs and investment.</p>	
<b>Keywords</b> Market entry in China, healthcare industry, institutional theory, value co-creation, the role of customers, digitalization	

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## Abbreviations

AI	Artificial Intelligence
APEC	Asia - Pacific Economic Cooperation
B2C	Business-to-Customer
CDC	Center for disease control and prevention
CFDA	China Food and Drug Administration
FDI	Foreign Direct Investment
GNI	Gross National Income
GDP	Gross Domestic Product
ICT	Information and Communications Technology
IVD	In vitro diagnostics
IoT	Internet of Things
KOL	Key Opinion Leader
MD	Medical devices
MNEs	Multinational enterprises
NMPA	National Medical Products Administration
SMEs	Small- and medium- sized enterprises
USA	United states of America
WTO	World Trade Organisation

# 1 Introduction

In today's highly competitive marketplace, multinational enterprises (MNEs) expand or locate their product around the world to strengthen the market share and achieve a competitive position globally. This market growth and expansion across space and time is referred as internationalization (Haley & Boje 2014, 115). This internationalization phenomenon has been recognized as a key step to boost business performance and keep businesses updated in a fast-changing environment (Tang & Liu 2011, 50). Various studies have shown the benefit for firms, which have established business in developed economies, to enter emerging economies to strengthen their operations and expand globally (Sheth 2011, 166; Horstmann & Markusen 2018, 1040; Paul 2020, 446). While seeking to enter a new foreign market, MNEs must make important strategic decisions to determine the on-going development, organization scope and business ideas (Melin 1992, 99).

Market expansion has been introduced as the middle stage of the international product life cycle, suggested by Vernon (1966, 190): (1) new product development in well-developed industrialized countries; (2) expansion to new markets; (3) increasing production in less advanced countries. The corporate can sell new products in an existing market or expand existing products to new markets. During the market expansion, organizations achieve growth, but they may also encounter various unknown or unplanned activities. The lack of knowledge about host environment can lead to high risks. The need to understand internationalization theories becomes imperative to ensure the success of market entry activity.

China, as the second largest global economy, is becoming increasingly important from the global perspective (Feng & Lam 2021, 355). This huge potential market has attracted many MNEs to expand their territory. In 2018, the inbound foreign direct investment (FDI) of China has reached 203 billion dollars, comparing to 258 billion dollars for the United States of America (USA) and 105 billion dollars for Germany (Indexmundi 2019). Besides the attraction, this emerging country in the far East has shown challenges to the foreign companies as with limited understanding of the commercial environment (Chung 2020, 2199). Reported by the European Union Chamber of Commerce in China (2021), 45% of the members have reported market access barriers in their 2021 survey. The nature of market, such as rapid evolvement and regional inequality, has made the Chinese market entry an appealing yet not an easy course. This also makes the topic as knowing the factors of market entry to China more meaningful and interesting.

During the Covid-19 pandemic, the big environmental change has accelerated another key factor, digitalization (Grand view research 2022). Due to lockdowns and restrictions, digitalization has brought many businesses operational activities into online mode, such as business travel, daily communication and customer interface. Furthermore, digitalization is becoming so prominent in China that it is transforming nearly all industries at various levels, with a target to achieve better service, more efficient organization and more productive employees (Hou, Wang & Wu 2017). It helps organizations to mitigate risks especially with geographical challenges. Additionally, it has largely enriched the ways of interacting with customers, providing more flexible ways of communication and more variable formats (Lenka, Parida & Wincent 2017, 92). This disruptive phenomenon has caught my interest in understanding its impact on internationalization and market expansion activities.

## **1.1 Study background and motivations**

Company A is a leading company in serving science, providing solutions to customers in various fields, such as life sciences, analytical fields and healthcare departments. Aligning with the company's globalization strategy, company A has decided to enter Chinese market with its new product, system X. System X is a fully integrated diagnosis system, which consists of a clinical analyzer, assay kits, consumables and disposables. The system aims to simplify the clinical laboratories' workflow by providing an automated solution with high performance and large throughput. Additionally, customers have no need to perform the complex validation process that they would need to do for self-developed methods. It also helps to achieve standardization and traceability by avoiding the need to source consumables and reagents from different vendors separately.

The motivations of this thesis work came from multiple areas. Firstly, as the product manager of system X, I would like to ensure the market entry success with a solid understanding of the host environment. Secondly, my background is Chinese and I have a personal interest and advantage to explore the healthcare environment in China. Thirdly, knowledge related to market entry strategy is very valuable for me and can contribute to other decision-making scenarios in the future. This is one of the interesting areas that I would like to explore further and fulfills my personal development direction.

## **1.2 Objectives and research questions**

Since system X is a clinical-use product, there are a set of strict guidelines to follow from the regulatory compliance point of view. When facing towards a completely new environment, what other effort needs to be made during the market entry activity to ensure that the product align with the local environment. Furthermore, with the innovative aspect

of the product, it is not clear for company A that what key features and values shall be promoted for system X. Despite of the high-level strategy plan in place, there is very limited understanding of Chinese healthcare market. It is essential to explore the unknowns before system X launches to this new market.

In this thesis, a case study will be conducted on system X, as a clinical diagnostic system, to enable the Chinese market penetration with a solid understanding of the host environment. This study will focus on the healthcare industry in China and aims to understand the local clinical practice, customer need and key values that system X could provide. The objective of the thesis work is to provide practical insights about influencing factors on market entry in China to ensure a successful internationalization of system X. Via this case study, I aim to understand the interplay among various environmental factors, including government regulations, political impact, cultural and social influence on the market entry. Linking tightly to the market need, the role of customers and value creation will also be explored. Additionally, a special interest will be paid on the digitalization impact towards the whole process.

The outcome of the study will be validated with the director of product management of system X. The findings will be reported in a one-to-one meeting in the format of presentation. Feedbacks will be collected through a feedback form. Furthermore, the feedbacks will be summarized and presented in chapter 5 discussion and conclusion in this thesis.

With the study objectives mentioned above, this study aims to examine these four questions:

- Q1. What local factors may companies come across when entering the healthcare industry in China?
- Q2. What is the role of customers during the internationalization process of system X in terms of value creation?
- Q3. What challenges and opportunities may digitalization bring to the market expansion activities of system X?
- Q4. What market entry strategies shall be proposed when system X enters the new market, China?

### **1.3 Scope and limitations**

First of all, the scope of the study is around the influencing factors of market entry activity. There is very limited mentioned about any organizational impact, such as the organization structure of company A in the global presence, the business unit of this product and other



company assets. These internal factors are not in the thesis focus. Secondly, this thesis aims to learn about a particular environment, which is the healthcare industry in China. In this particular context, some findings might not apply to all industries in China. Even though some researchers perform the study on emerging countries as one group, this thesis only focuses on the context of China. Lastly, company A is an international company with local subsidiaries all around the world, including China. This study will be conducted assuming the presence of a local office, which may also limit the findings to be directly applied for small- and middle-sized firms.

## 2 Literature review

This chapter introduces the most relevant literatures describing the internationalization and institutional theories. Firstly, I will start with introducing the concept of internationalization and different market entry modes. Then I will explain the different key research points, which form up my framework. These include formal and informal institutional theory, customer and value co-creation concept, and digitalization impact. Then I will present the literatures related to market entry in China with the same key topics as mentioned above. To conclude my literature review chapter, a theoretical framework will be presented.

### 2.1 Internationalization and market entry mode

Internationalization links to the expansion across countries and over time. This has been an important phenomenon in recent decades for multinational enterprises (Haley & Boje 2014, 115). Welch & Luostarinen (1988, 34) referred the term internationalization as “the process of increasing involvement in international operations”. Instead of predicting the activity trend “increasing”, Calof & Beamish (1995, 116) defined internationalization as “the process of adapting firms’ operations (strategy, structure, resource, etc.) to international environments”. In the same study, they emphasized the importance of appropriate product, ensuing strategy and attitudes of the firm’s executives to ensure the internationalization success (Calof & Beamish 1995, 129).

Aaker & Moorman (2017, 6) discussed the product and market investment strategy with a table illustrating different scenarios (table 1). During international expansion, there are several importance factors to consider, such as market entry mode, entry location, and entry timing for firms (Huang & Sternquist 2007, 613). Dunning (2009, 18) has discussed the changing scenario of economic activity impacted by internationalization. He emphasized the importance of location when considering the competitive position of firms, as well as the importance of government – firm partnership. In the study of Mathews (2006, 23), linkage and leverage have been highlighted to accelerate the international expansion for MNEs.

Table 1. Product – Market growth directions (Aaker & Moorman 2017, 6)

	Present products	New products
Present markets	Market penetration	Product expansion
New markets	Market expansion	Diversification

Market entry mode can be classified in different ways based on the group criteria and variables. The traditional market entry modes were based on different factors, including country, industry, product and firm. The mode has been divided into exporting, contractual agreements, joint ventures, acquisition and greenfield investment (Kumar & Subramanian 1997, 53; Schellenberg, Harker & Jafari 2018, 601). Hill, Hwang & Chan (1990, 117) made a simplification and divided the modes of entry into licensing, joint venture and wholly owned subsidiary. While in the study of Brouthers & Hennart (2007, 63), they argued that foreign entry is a “multilevel phenomenon” with two entry modes proposed, namely contracts and equity.

A series of key internationalization theories have been studied by researchers aiming to explain the internationalization activities and market entry mode. These include transaction cost approaches (Brouthers 2013, 14; Canabal & White 2008, 267), institutional theory (DiMaggio & Powell 1983, 148; North 1990, 1), eclectic paradigm (Dunning 1980, 9; Canabal & White 2008, 267), Uppsala internationalization model (Johanson & Vahlne 1977, 23; Ruzzier, Hisrich & Antoncic 2006, 476) and the resource based view (Barney 1991, 99; Sharma & Erramilli, 2004). Many of the previous entry mode studies were performed based on Transaction cost theory (Coase 1937, 386; Canabal & White 2008, 267). As stated in its name, the key determinants of Transaction cost theory are the transaction cost related covariates (Schellenberg & al. 2018, 608).

Along the research, some scholars started challenging certain limitation of Transaction cost theory in deciding the market entry choices (Huang & Sternquist 2007, 613). One point was the inconsistencies on how risks have been discussed, which could result in contradictory explanations on market entry choice (Davis, Francis & Desai 2000, 239). To better understand and emphasize the impact of environment and society in a foreign market, this thesis work will develop its framework based on the institutional theory.

## **2.2 Institutional theory**

Institutional theory, also known as institutional theory of art, was first used to illustrate the artworld, then later applied to describe as “rules of game” to guide firms to operate in a business setting (North 1990, 16). Institutional theory provides a rich theoretical foundation for examining critical issues (Kostova, Roth & Dacin 2008, 994) and emphasises the rules, such as regulations, customs, norms, cultural value systems, and other institutional forces (Scott 1995, 3; Meyer & Rowan 1977, 340; DiMaggio & Powell 1988, 3).

There are numerous research studies conducted to analyse the internationalization strategy based on institutional theory (Huang & Sternquist 2007, 613; Arregle, Miller, Hitt & Beamish 2016, 697; Enkhtaivan & Davaadorj 2020, 97). Davis & al. (2000, 239) discussed the impact of institutions from both host country and also parent corporation during market entry and mentioned the possible result of isomorphic pressures due to the institutionalized norms. Huang & Sternquist (2007, 623) analyzed the retailers' foreign market entry decisions with an institutional perspective and highlighted several institutions such as legal and political factors, social norms, imitation. In the study of Yang and Wang (2013, 96), they have focused on the electronic marketplace in China, which has been co-constructed and institutionalized from 1999 to 2010. They presented the critical need to consider multiple constraints and pressures, such as political, economic, cultural and institutional environments before expansion in a defined environment (Yang and Wang 2013, 96).

### **2.2.1 Formal and informal constraints**

The institutional framework consists of formal constraints, informal constraints and the enforcement characteristics of both (North 1990, 9). Formal constraints mean these institutions ruled by specific laws and regulations to a society (North 1990, 10). Informal institutions include customs, traditions, social norms and culture beliefs (North 1990, 10; Handelman & Arnold 1999, 35). Previous studies have recognized the importance that MNEs acknowledge the formal constraints at the host country. Government agencies may implement various regulations and rules to protect domestic industries from foreign competition in the host country (Chen, Yang, Hsu & Wang 2009, 703).

While many scholars focused on the impact of formal institutions, the inadequate attention of informal institutions on market entry has also been brought up by researchers (Lu, Song & Shan 2018, 762; Boddewyn & Peng 2021, 1). Informal constraints play a larger role when the legal framework is less adequate and political structure is less stable (North 1990, 11; Peng & Heath 1996, 504). In the recent research of Boddewyn & Peng (2021, 5), they argued that reciprocity, as an informal institution, may be especially useful in regards of foreign entrants penetrating the host countries for emerging economies.

The influence of both formal and informal institutions has also been studied together in regard of their impact on firms' decision in foreign market entry (Peng, Wang & Jiang 2008, 921). To take this to the next step, Fuentelsaz, Garrido & Maicas (2020, 1) did not only study the effect of both formal and informal institutions, but also mentioned the interaction between the two on foreign market entry. A theoretical insight was proposed that to reduce

the obstacles of foreign market entry, strong and sound formal institutions will help in mitigating the negative effects of informal institutional distance (Fuentelsaz & al. 2020, 13).

### **2.2.2 Legitimation and isomorphism**

For the market entry activity, the lack of familiarity and credibility into a new market could hamper the business performance. When studying the institutional environments, one concept, legitimation, has been proposed by scholars. Legitimation means the generalized perception or assumption that are considered as acceptable, desirable or appropriate within certain society (Suchman 1995, 574; Handelman & Arnold 1999, 35). It represents a cognitive and sociopolitical judgement, of which cognitive legitimation refers to “the spread of knowledge about a new venture” and sociopolitical refers to “the process by which key stakeholders, the general public, key opinion leaders, or government officials accept a venture as appropriate and right, given existing norms and laws” (Aldrich & Fiol 1994, 645).

Another phenomenon in internationalization studies is isomorphism, which has been recognized as a coercive, mimetic and normative process when facing uncertainties (DiMaggio & Powell 1983, 157). Isomorphism has been applied on studying organizational behaviours, as organizations try to enter a new market, they become more and more similar (Haveman 1993, 593). This isomorphic pressure shapes firms’ behaviour towards shared norms and values in a similar business setting (Li & Ding 2013, 506). This mimetic change has been explained as driven by the efficient response to uncertainty of organizations and also the obligatory action of role following (Haveman 1993, 593). Foreign firms find the advantage to imitate local competitors as a strategic response when facing an unknown institutional environment (Salomon & Wu 2012, 343). Pant & Sheng (2015, 188) explored the phenomenon of online isomorphism in communication and discovered the usage of common words in the companies’ websites among competitors.

### **2.3 Value proposition and the role of customers**

Value proposition helps customers to visualize the benefits that the products can provide, distinguish the product from competitors, and how it can alleviate the pain points of customers (Aaker 2017, 118). A clear and specific value proposition is essential for achieving a distinctive competitive advantage (Kaplan & Norton 2001, 87). Prabakaran, Bliemel & Tanev (2021, 38) has studied the essential position of value proposition for firms to go internationalization and discussed the possible failure scenarios when value proposition is misaligned with internationalization process. Companies suffered when entering multiple markets without differentiating the value proposition. But if value proposition is over-diversified among many markets with under resourced condition, the

firms tend to encounter failures as well (Prabaharan & al. 2021, 38). In the study of Nenonen, Storbacka, Sklyar, Frow & Payne (2020, 282), value proposition is seen as a strategic device for market-shaping, which may induce changes to human and organizational behaviour, such as consumer herding and social influence. The possibility for market-shaping value propositions to impact entire market system was also proposed (Nenonen & al. 2020, 282).

In previous studies, value proposition has been referred as a central element of value delivery system, of which value proposition is chosen, provided and lastly communicated to the target audience (Lanning 1998, 13). The role of customer is “the recipient of the goods” (Vargo & Lusch 2004, 7). Recent studies on value proposition have shown increasing interest on the direction of customer – firm co-creation (Prahalad & Ramaswamy 2004, 5), in which customer is “the coproducer of service” (Vargo & Lusch 2004, 7). Customer value cocreation has been defined as “Benefit realized from integration of resources through activities and interactions with collaborators in the customer’s service network” (McColl-Kennedy, Vargo, Dagger, Sweeney & Kasteren 2012, 370). Market is no longer a place where value is exchanged, but a forum for dialogue to happen among “the consumers, the firm, consumer communities and networks of firms” (Prahalad & Ramaswamy 2004, 11). Grönroos & Voima (2013, 141) have studied the value creation process by segmenting it into provider sphere, customer sphere and the common joint sphere, as illustrated in figure 1. Instead of considering value creation as an “all-encompassing process”, the importance of clearly defining value spheres based on value - in - use concept was emphasized. Sweeney, Danaher & McColl-Kennedy (2015, 318) have further discussed the contribution of value cocreation in the healthcare system context, where value cocreation activities can benefit the quality of life, customer satisfaction and behavioural intentions.

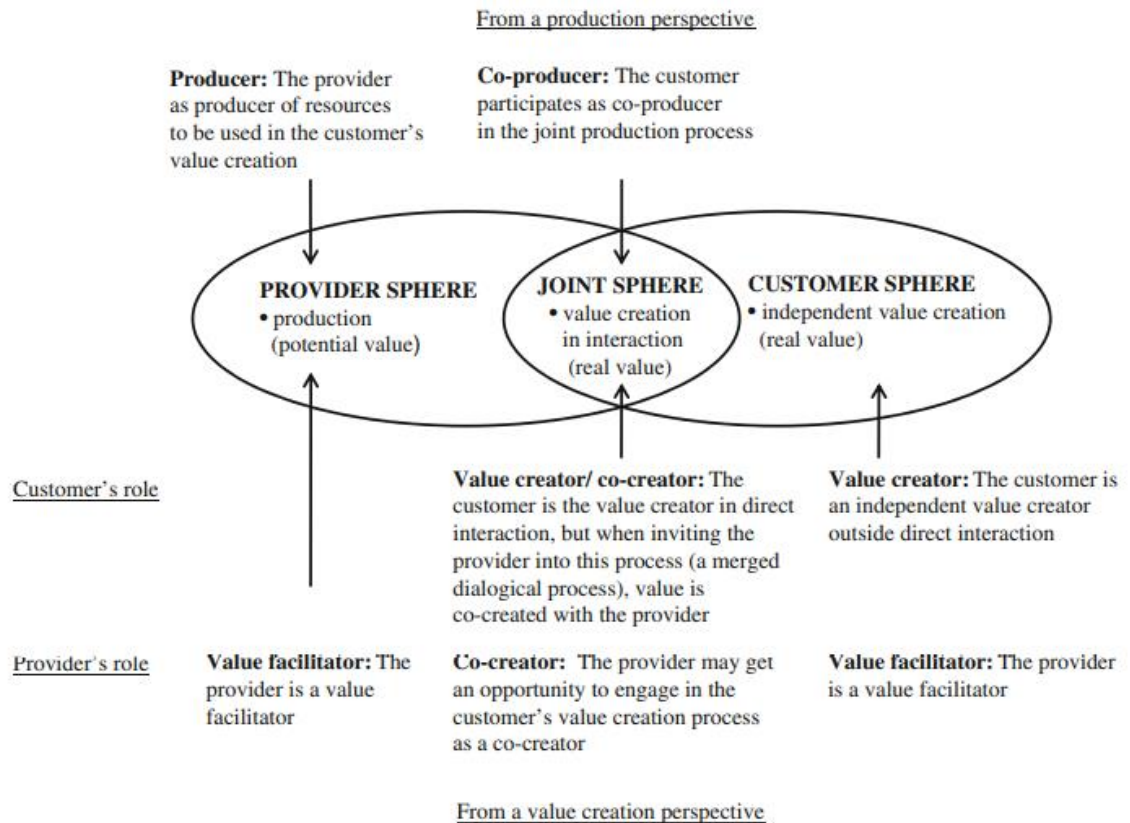


Figure 1. Value creation spheres by Grönroos & Voima (2013, 141)

## 2.4 Digitalization and its impact on internationalization

Digitalization is happening in every corner of our life. This increasing level of automation and intelligence has also marked a new era of industry, also referred as Industry 4.0 (Oesterreich & Teuteberg 2016, 121). Digitalization is transforming ways of how organizations operate, the process of how things are performed and also is offering new opportunities of internationalization (Reuber & Fischer 2011, 660). Digitalization is more than a stimulant, but also shifting the business models into various major areas, such as “process digitalization”, “communication digitalization” and “buyer digitalization” (Ruiz-Alba, Guesalaga, Ayestaran & Mediano 2020, 404).

Digitalization shows its benefits on accelerating the process of organizational learning ability and network creation, which further helps in speeding up the internationalization process in lean global start-ups (Neubert 2019, 52). Along with this digitalization path, business process and operational efficiency have been improved, such as staff training and development (Barykin, Rasskazova, Evseeva, Evseeva & Ostapenko 2021, 1; Martinez 2019, 1716). It also provides firms with more channels to gather more information from customer, and allows firms to deliver the values in a more rapid manner (Frank, Mendes,

Ayala & Ghezzi 2019, 341). The digital format reduced the “location specificity, vertical and horizontal asset specificity, and cross-border information asymmetries”, which facilitated on the internationalization efforts to a “lean internationalization” (Autio & Zander 2016, 1754; Wittkop, Zulauf & Wagner 2018, 193).

Digitalization also enables organizations to overcome geographical limitations via online communication and product/service offering (Fischer & Reuber 2014, 565). While in the study of Styles and Ambler (2003, 640), they challenged the thought of A or B scenario, as if digital communication increases, business travels shall decline. However, as a result, while “A or B” scenario can actually be a “A and B” thinking. A hybrid strategy in customer communication has been proposed, as blending the relationship building with both digital channels and traditional ways (Watson, Weaven, Perkins, Sardana & Palmatier 2018, 30). Nevertheless, digitalization can reinforce the current format of communication and accelerate the speed of internationalization.

Digitalization also provides the possibility for innovations and implements novel approaches for direct engagement with customers (Autio & Zander 2016, 1754). The importance of several aspects has been studied by Reuber and Fischer (2011, 661), namely online reputation, online technological capabilities and online brand community, which have been recognized as contributing positive effect on internationalization for internet related organizations. Cobelli & Chiarini (2020, 1541) studied how service digitalization on healthcare industry could help in improving the customer satisfaction and loyalty. Lenka & al. (2017, 92) took the interplay between digitalization and customers to the next step and combined with the view of value co-creation. During the value co-creation process, digitalization contributed to capture customers’ needs and support them in meaningful ways. Additionally, it enhanced the interaction and response mechanism between firms and customers (Lenka & al. 2017, 96). McColl-Kennedy & al. (2012, 370) studied the value co-creation process in the context of online health community, which has offered equal opportunities for individuals with physical challenges to contribute and share resources.

The challenge of digital internationalization for small- and medium-sized enterprises (SMEs) has also been identified as the scaling objectives and business module were designed around digitalization strategies (Bailletti & Tanev 2020, 5). Westerlund (2020, 48) examined the impact of business model on the process of digital internationalization and emphasized the important of social networks, business partnerships, digitalization capability and multiple market entry modes.



## **2.5 Market entry in the context of China**

In 2020, China has shown a leading position among the list of largest gross domestic product globally, only second to the United States (Statista 2022a). According to the data from UNCTADstat (2022), China GDP growth between 2015 to 2020 was 33%, while as 15% for the USA. The remarkable economic growth has attracted the investors' attention. Only in the first quarter of 2022, there has been an increase of 25.6% of foreign direct investment to Chinese domestic companies or entities (Ministry of Commerce of the People's Republic of China 2022). Foreign investment was attracted by the low-cost and abundance of labour, and hence focusing on the low value-adding activities for operational benefits. This also reflected the absence of national innovation capabilities and unmatured institutional conditions for advanced innovative development work (Zhao, Tan, Papanastassiou & Harzing 2019, 553). China has gradually entered the international economy battlefield.

In the twenty-first century, along with China's accession to World Trade Organisation (WTO) in 2001, the big market and generous workforce have attracted even more foreign investors' attention. A series of activities have been captured during this period, such as the 2008 Olympics in Beijing and Asia - Pacific Economic Cooperation (APEC) summit in Shanghai. China has become a central player in the international economy setup and often referred as "the factory of the world". Duan, Dietzenbacher, Los & Yang (2021, 101658) studied the relationship of China's exporting activities and Gross National Income (GNI) from 2002 to 2017. A direction towards more value-adding activities in the global value chain was suggested to the government (Duan & al. 2021, 101658). The same phenomenon was mentioned in the case study regarding the internationalization of a global pharmaceutical firm by Zhao & al. (2019, 553). The first signs were seen that the local R&D started undertaking world-leading roles via their Innovation China Center, which further implicated the stronger innovation capabilities and preferred institution environment during the period of 2009 to 2017 (Zhao & al. 2019, 553).

International joint ventures have been the preferred market entry choice for foreign investors until 1997 (Yan & Warner 2002, 137). In the late 1970s, China conducted the Economic Reform and Open Door Policy, which led to the market entry mode preference shifting towards the wholly owned subsidiaries (Puck, Holtbrugge & Mohr 2009, 388). In the study of Xing, Liu & Lattemann (2020, 100974) about the entry of foreign hospitals, it has been indicated that collaborative partnership is a "salient entry mode choice" in China, which helps to leverage the local resource, adapt to government policy and regulatory changes.

Multiple factors have been studied which could impact on the market entry activity. Hsu & Chen (2009, 600) stated the advance of early entry timing to achieve higher levels of capability development in China. Besides the order of entry, Powell (2014, 43) studied the speed of entry into China and concluded an inverted U-shaped relationship between speed of entry and profitability.

While bringing the opportunities, this unique market also presents the Western world many challenges due to the highly regulated environment, complexity and diversity (Gao, Knight & Ballantyne 2012, 456). Reforms on foreign law and economic development opened the door for market entry in China, but the local regulations to protect domestic firms have brought challenges for foreign market entrants (Powell 2014, 42). Yang (2002, 333) emphasized several reasons for the rising regional inequality in China, namely fiscal and credit policies, regional development strategy and factor market distortions. To seize the opportunities, scholars have made various research on market entry in China with an institutional perspective.

### **2.5.1 Institutional context in China**

Numerous studies have been conducted on the importance of national governance infrastructure for economic growth, investment and new firm entry into China. Formal institutional factors, such as legislation, regulation, transparency of legal process in China have been studied (Ahlstrom, Young, Nair & Law 2003, 41; Chen & al. 2008, 704). The concept of codified law in many areas are fairly new in China, which has resulted in a lack of legal infrastructure as a challenge for foreign firms (Ahlstrom & al. 2003, 41). On the positive side, supportive formal institutions could also accelerate the business growth. For example, the highly developed cyber control technology and infrastructure in China was initiated by governmental support to achieve political goals and friendly regulatory environments (Kshetri 2017, 49).

Another formal institution to acknowledge is the strategy proposed in “Made in China 2025” (“中国制造 2025”). This initiative was proposed in May 2015, with a clear vision to increase using domestic material to 40% by 2020 and 70% by 2025 in the core areas (Hsu 2017). The government aims to drive from a low value-adding “world factory” to an innovative economy with upgraded manufacturing capabilities. This strategy illustrates the preference and support of domestic Chinese companies over foreign ones through the emerging legal and regulatory frameworks (United States Chamber of Commerce 2017).

Yet, informal institutions have proven to play an essential role, especially in emerging economies such as China. Different from formal institutions, which are published and visible through official channels, these rules are unwritten and are being followed outside of the official routes (Estrin & Prevezer 2011, 41). Chen & al. (2008, 711) have studied both formal and informal institutions in China, for example regulative institutions, professional norms, network relations and mimetic behaviour, in the context of market entry in food industry. They stated the missing impact of professional norms and highlighted the importance of network relations from the other formal and informal constraints.

Relationship or network, also called “*guanxi*” in Chinese, is a term to describe the special personal relationships or interpersonal ties (Yang 1994, 6; Gao & al. 2012, 458). Comparing to West European business networks, which focuses on organizational and professional trustworthiness, this Chinese concept leans more on the individual and social trustworthiness (Jansson, Johanson & Ramström 2007, 961). This relationship is aimed to bring a harmony with common group goals and needs, which means parties are ready to compromise for a common ground instead of forcing (Lin & Miller 2003, 286). Puffer, McCarthy & Boisot (2010, 441) referred “*guanxi*” as a facilitating mechanism, which helps to create a decision short cut within relationships. Peng & Luo (2000, 486) emphasized the importance of these interpersonal ties with key stakeholders, such as top executives at other firms and governmental officials, which appear to be beneficial on organizational performance extensively in China.

### **2.5.2 The legitimacy and isomorphic trend in China**

The absence of effective formal institutions in China has been compensated by informal institutions in a positive way, which result in alternative paths to create legitimacy for firms (Estrin & Prevezer 2011, 41). Four types of legitimacy building strategy were proposed by Ahlstrom, Bruton & Yeh (2008, 385) in the context of China, including selecting appropriate environment with supportive audience; conforming in the existing environment of the organization; manipulating and shipping the existing environment to new legitimating beliefs and lastly creating new environments to legitimate the operations.

In the study of Gilley (2008, 259), China ranked 13 out of 72 countries in terms of the legitimacy scores for the period of 1998 to 2002. In a high legitimacy level country as China, legitimacy-based perspective can explain the institutional change better than the traditional structural-based theory, namely economic, sociopolitical or historical influences (Gilley 2008, 262). One institutional legitimacy highlighted by Luo, Hsu & Liu (2008, 202) was the governmental networking, which could lead to a preferable position, such as receiving

valuable market information and less delays due to bureaucracy. Additionally, they have highlighted the importance of building strong networking through the whole supply chain, distributors, suppliers in order to reach to high customer satisfaction (Luo & al. 2008, 210).

Besides legitimacy, the importance of isomorphic impact during the internationalization process has also been pointed out in the context of China. Until 2001, joint venture has been the major mode of China market entry choice due to the government regulations and ownership restriction (Mohr & Puck 2005, 163). Later along with the policy change and opening-up of the Chinese market, the trend of transferring to wholly owned subsidiary has been explained as associated with isomorphic pressure in the big environment (Puck & al. 2009, 388). Besides the coercive isomorphism, mimetic isomorphism has been applied as a strategy to cope with uncertainty by adopting industrial norms from competitors for Chinese firms (Yang 2009, 43). The same imitation behaviour has been discovered by Li & Ding (2013, 506), where isomorphic pressure has demonstrated a positive effect on the intensity of the internationalization of Chinese firms.

### **2.5.3 Customers' role in China**

In this highly complex and regulated market, customers play an even more critical role in the process of internationalization to China. In the study of Gao & al. (2012, 457), they identified several major themes involving China on the international marketing research and highlighted the large number of studies focusing on understanding Chinese consumers, for example customer needs, attitudes and customer power. They pointed that a trend of studying children and young segments, which indicated the emphasis on family values and long-term orientation (Gao & al. 2012, 457). The same long-term orientation was mentioned by Lin & Miller (2003, 286), where the negotiation parties believe that gain and loss will balance out in the future with a relationship commitment in China.

Chinese culture and relationship impact on Chinese customers' behaviour has also been studied. Lu & al. (2018, 770) investigated the effect of general social trust and stated the importance of joining one or more local networks for firm's internationalization strategy in the China context. Chen & et al. (2009, 711) explored further the mimetic behaviour in a food company set-up in China and highlighted the importance of network relations and mimetic behaviour from customers.

Customer engagement and content creation have been already a familiar concept in the virtual brand community, where terms like influencer, fans club and key opinion leader (KOL) are brought up. For example, "Huafen Club" is an online community established for

fans of Huawei products, while “XiaoMi BBS” respectively for XiaoMi supporters. “Xiaohongshu”, also known as “little red book” or “RED”, is a Chinese social media with around 100 million active users in 2020 (Statista 2021). RED started its business mode with utilizing influencers to promote the products and hence impact the sales (Chen 2021). Users are not only as a service receiver, but also actively participate in the product promotion and content creation cycle. Similar concept was also introduced in one study about another Chinese social media Weibo, where value-generation process between companies and customers helps in building a good brand image and brand influence (Zhang, Lan & Chen 2020, 1).

#### **2.5.4 Digitalization in China**

China has developed its competitiveness along the big waves of digital transformation. The trend has been even further accelerated since Covid-19. Digitalization has stimulated new ways of operating, communicating, interacting and producing in China. With improved information and communications technology (ICT) infrastructure, China has become the biggest business-to-customer (B2C) e-commerce market in the world, with the help of digital technologies, e.g. Internet of things (IoT), artificial intelligence (AI), and big data analysis (OECD Development Center 2018). China accounted for 38% of the IoT patents globally under the balanced strategy between economic modernization and political control (GBTimes, 2015). Ecommerce transaction in 2018 has reached 45% of global retail as the largest e-commerce market (McKinsey & Company 2021).

Digitalization has also shown impact on business-to-business environment. Interestingly, in a survey conducted by Hou & al. (2017), it was introduced that many Chinese companies were fully aware of the significance and benefit of digital transformation. 76% out of 130 Chinese companies voted for the increasing competitiveness that digitalization could bring. However, fewer Chinese companies believed that they were ready to undertake a digital transformation, especially when comparing to the result from United States and Germany (Hou & al. 2017).

In 2021, the amount of internet users in China reached a new record of 1031 million (Statista 2022b). This means that business has more opportunity to reach to customers via digital methods. The technical infrastructures, including software and platform solutions, are more scalable, customization and flexible to reach a higher diversity based on customer need (Daxueconsulting 2019). New customer experience services are synchronized while firms leverage each other’s capabilities along with the digitalization transformation. For example, Alibaba is firstly known for its ecommerce platform “Taobao”. Now the company has

developed its ecosystem with more digital services and products such as payment service “Alipay”, cloud computing service “Aliyun” and a delivery service “Cainiao” (Startup Talky 2021). This transformation allows the corporate to engage with both business partners and consumers via more diverse channels.

## **2.6 Theoretical framework**

This study seeks to examine different influencing factors on market entry activity from an institutional point of view. Both formal and informal institutions are studied. Through the case study of system X entering Chinese clinical industry, I aim to understand how the product values are shaped in a new host environment, the role of customers and their impact. Based on the literature review, three circles are defined and illustrated in figure 2: (1) formal institutions between product system X and Chinese market/healthcare industry; (2) informal aspects between customers and the defined industry; (3) value co-creation process between product system X and customers. The fourth aspect, digitalization, will be discussed separately as a general interaction on this whole internationalization process.

The interaction between institutions and organizations is dynamic and evolving. Institutions define the rules of game for organizations, while organizations also influence the institutional framework. They together shape the economic activities (North 1990, 5). That forms up the circle 1. When a product breaks into a new market, the local formal institutions shape the way of how the organization should consider its development both from legitimacy and isomorphism point of view. While learning from the existing successful model organizations, innovation is very important to be differentiated from a competitive environment (Zach, Schnitzer & Falk 2021, 103267). Innovated behaviour will then gradually be copied by others and become the new isomorphism. The legitimacy and isomorphic phenomenon will be explored in the context of Chinese healthcare industry in this study.

On the left side of the dynamic circle, end users in the industry shape the social beliefs, norms and networks. This social and cultural phenomenon will in return impact on the customers’ view, such as professional norms and mimicking behaviours (Chen & al. 2008, 711). How does this show in the context of clinical industry? What are the informal institutions that need to be considered during market entry? To answer these questions, the second focus is around the social norms and culture impacts.

The role of customers in terms of new product will be explored in the right side of the dynamic circle. Based on the previous literature, the role of customers in value creation for

new product is not that clearly mentioned, especially for the clinical industry. What are the aspects that need to be considered during market entry activity in relation to customers? How can they help in product differentiation when a product enters a new market? I aim to explore the relationship between the customer and product, and to seek for a solution for a successful product entry.

Last but not the least, literatures suggest that digitalization is a stimulant for the internationalization process. Digitalization reduces the dependencies on location by providing service functions over internet (Fischer & Reuber 2014, 565). This enhances the process of internationalization, but physical interaction will co-exist with digitalization methods. In this study, I aim to explore the opinion from people in regards of market entry activity and the digital impact with the targeted healthcare industry.

With the above-mentioned reasons, the conceptual framework is illustrated into three dimensions, to explore and discuss the interplay among them. In the conclusion chapter of this study, the framework will be revised and updated based on the research findings.

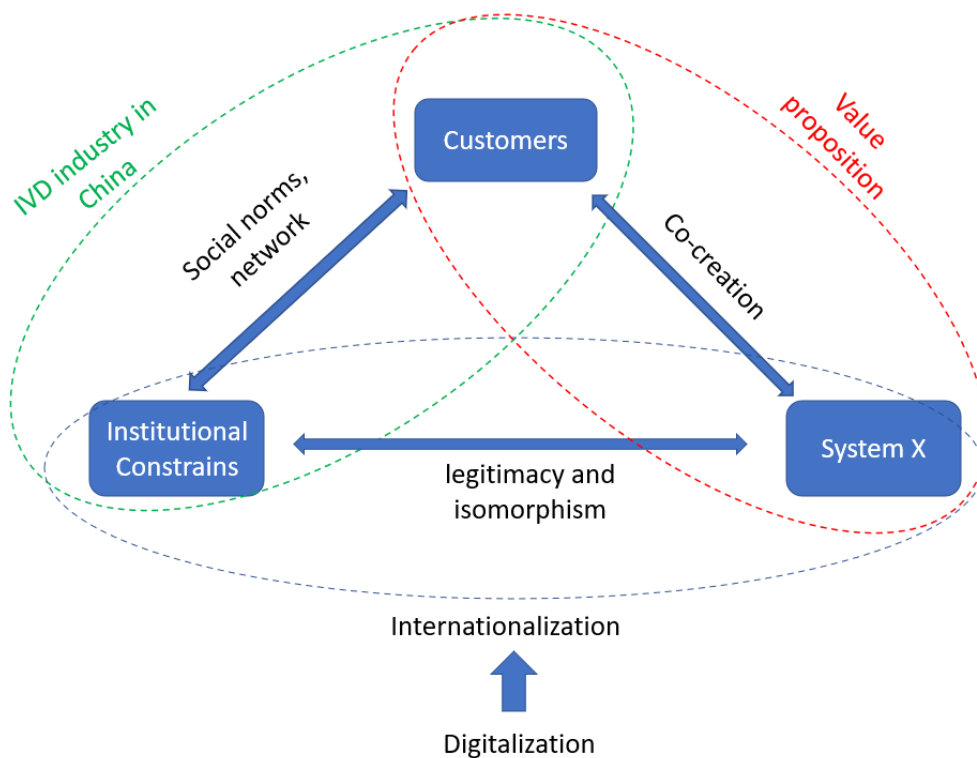


Figure 2. Proposed theoretical framework

### **3 Research methodology**

This chapter describes the methodology of the research. Starting with research approach and strategy, I then will continue discussing the data collection and analysis. Data quality is evaluated based on the “eight big-tent” criteria developed by Tracy (2010, 840). Lastly, I will conclude this chapter with the ethical considerations of the research.

Worthy topic means that the research is “relevant, timely, significant, interesting or evocative” (Tracy 2010, 840). The study should provide “educative authenticity” (Guba & Lincoln, 1989) or offer a larger significance or out of the common-sense assumptions. This study aims to understand the clinical industry market environment in China from an institutional view. Additionally, this study targets to provide constructive suggestions for company A, when it conducts market entry activity of system X.

#### **3.1 Research approach and strategy**

One of the first key choices when doing research is to decide the methodological approach as in qualitative, quantitative or mixed method. The choice will influence the techniques and procedures about how the data is collected and analysed, and also lead to different ethical discussions (Creswell 2014, 10). Qualitative research has become an increasingly chosen approach in various areas, such as social work, psychology, information science and political science (Flick 2014, 3). Nowadays, it has been also applied for various studies in the business world to explain a phenomenon, for example internationalization (Adedigba, Lin & Din 2020, 36; Chen, Li & Li 2021, 10514). It helps to generate concrete and practical knowledge based in certain context and normally deals with non-numeric data.

There are several strategies associated with qualitative research, one of which is case study research. Case study is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin 2009, 18). The focus of this study is on a current phenomenon and in a real-life context. Being a context-dependent research approach, the knowledge and experience from case study cannot generalize to theoretical level, but it certainly is “necessary and sufficient method for certain important research tasks in the social sciences” (Flyvbjerg, 2006). Since I aim to outline a framework which could be applied to the market entry activity to China and generate a theory which would help in succeed the activity, case study strategy fulfils the study needs perfectly. The focus on how and why of the phenomenon stand out during this study process, which aligns with the focus of case study really well (Yin 2009, 36).



### **3.2 Data collection**

In this research work, data was collected via two different sources. The main data resource was collected via semi-structured interviews. Additionally, secondary data was collected via official reports, documentations and publications around the Chinese healthcare industry.

Saunders & al. (2019, 434) defined research interview as “a purposeful conversation between two or more people, during which the interviewer asks concise and unambiguous questions and listens attentively to the interviewee talking”. Normally interview types are classified depending on their level of structure and the interview mode. In this study, semi-structured interview methodology is used to explore legitimacy-building activities in China allowed for both structure and some spontaneous discussion of problems and solutions not fully identified by prior research.

Interview questions were based on the theoretical framework of the study, including topics about product entry to China, Chinese clinical market environment, regulatory aspects, local culture impact and digitalization in China. To ensure the data diversity, informants were selected based on their role during the internationalization process and divided into host-country origin (in this case, China) and home-country origin (in this case, Finland). Interviewees with host-country background all had experience working with international business and these with home-country background all shared common working experience with Chinese customers and/or colleagues. Interview questions were sent to informants beforehand. The interviews were semi-structured with the majority of the interview questions standardized. Additionally, there were specific questions based on the interviewees' backgrounds.

In total, five in-depth interviews were conducted. Interviews were organized through Microsoft Teams with video recording. An automatic transcript function was used to verbatim level during the interview. Interview questions can be found as appendix 1 in the end of this thesis. The whole transcript of the interview data has been archived. Interviews generally lasted for 1-1.5 hour with interview participants listed in table 2. To ensure the privacy protection and confidentiality, the names of the participants were not mentioned in this thesis report.

Table 2. Interview participant list

<b>Participants</b>	<b>Background</b>	<b>Interview time</b>	<b>Interview length</b>
Participant 1	Host	18.Feb.2022	1.5 hour
Participant 2	Host	25.Feb.2022	1 hour
Participant 3	Home	23.Feb.2022	55 min
Participant 4	Home	25.Feb.2022	1 hour
Participant 5	Home	04.Mar.2022	1 hour

Secondary data analysis means the analysis of data that were collected for other purpose initially, and further analysed in order to answer ones' own research questions or study objectives (Saunders, Lewis & Thornhill 2019, 338). In this study, the information about Chinese healthcare industry was collected via secondary data resources.

### 3.3 Data analysis

Qualitative data analysis is “the classification and interpretation of linguistic (or visual) material to make statements about implicit and explicit dimensions and structures of meaning-making in the material and what is represented in it” (Flick 2014, 5). Many researchers have argued that there was not enough clarity on how researchers analyzed qualitative data (Thorne 2000, 68; Braun & Clarke 2006, 77), which rises the importance to show the process of data analysis. In this study, thematic analysis was chosen as the data analysis method.

Thematic analysis is suggested by Braun & Clarke (2006, 77) as the “foundational method” for qualitative research. The common phases of thematic analysis include familiarizing with the data, coding the data, searching the themes for the data and lastly refining the themes. In the study of Nowell, Norris, White & Moules (2017, 1), they have emphasized the phases of establishing initial codes then review and define them in the later steps to create a trustworthy thematic analysis.

In the first phase of data analysis process, I have downloaded both the video recording and transcripts into word file. I listened through the interview videos and made necessary corrections to the transcript files to familiarize with the data. In the next step, I sorted the interview content into one excel, with the same topic listed in one row. No content has been eliminated at this stage. Since two of the interviews have been conducted in Chinese, the

translation work also happened at this step. After organizing the data, it is the step for coding the data, in which the data gets sorted and better organized. Most of the text are assigned with codes. These codes are then categorised into different groups or categories, then summarized into different themes. At last, while studying the relationship between the themes, the understanding of the research topic was deepened. This process was circled back from the start of analysing the raw data to the end of understanding the relationship between various themes. This process continues throughout the thesis work to make sure that the themes are well aligned with the research purpose and the framework.

### **3.4 Research quality**

The qualitative research community face quite several options to evaluate their research quality. The traditional criteria, such as reliability, generalizability and validity, are not considered as the most appropriate to assess qualitative research, as these measurements are based on positivist assumptions, whereas qualitative research is often based on interpretive assumptions (Lincoln & Guba 1985; Bochner 2000, 266). Some researchers adapted these concepts into qualitative research as they generally believe the importance to apply same criteria for all research (Saunders & al. 2019, 216). The same criteria are used but deployed with different procedures, which suit qualitative research (Yin 1984, 34). There are also researchers, who have modified a corresponding set of criteria for qualitative research, introduced by Lincoln and Guba in the 1980s. These criteria include credibility as for internal validity, transferability as for external validity, dependability as for reliability and confirmability as for objectivity (Guba 1981; Lincoln & Guba 1985; Guba & Lincoln 1989). Later on, Tracy (2010, 840) introduced a concept of “eight ‘big-tent’ criteria for excellent qualitative research”, namely worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethical and meaningful coherence. In this research study, these following criteria based on the concept of Tracy (2010, 840) will be applied, including rich rigor, sincerity, credibility and resonance. Meaning of the study and ethical aspects will be discussed in this chapter separately.

Rich rigor refers to the sufficient data with rich complexity. First of all, on the abundance, as small as four individuals have proven to provide extremely accurate information according to Romney, Batchelder & Weller (1986, 326). Guest, Bunce & Johnson (2006, 59) suggested that a set of six interviews may have provided sufficient meaningful themes and useful interpretations. This also aligned with the conclusion of Scarduzio & Geist-Martin (2008, 395), that very little data can be also enough when data are new, unique or rare. In this study, there are five in-depth interviews done, of which each lasted for about one hour. The information is more than sufficient to conclude several key elements around

internationalization process with the context of China. Secondly, about the complexity of data, interviewees were carefully selected with the needed experience, various business functions and different national background. As suggested by Tracy (2010, 841), when describing the data analysis process of the study from raw data to summarized points, it may also provide rigorous data analysis. This has been covered in the previous section of this chapter.

Sincerity includes several aspects, such as self-reflexivity and transparency (Tracy 2010, 841). Self-reflexivity means the personal awareness around the research process, for example how researchers examine their impact on the data and assess their own biases. Firstly, my Chinese background has provided many conveniences for me to collect the data and understand the data. For example, I was able to conduct the interviews with Chinese colleagues in our mother language. Even though these colleagues are fluent in English, there are certain hidden assumptions or meanings that might be difficult to express in non-native language. Additionally, there are cultural set-up that is easy for me to relate, for example the after dinner “ceremony” as a social method for relationship building mentioned by a Finnish interviewee. On the other hand, I’m also aware of the possible bias that could be introduced due to the personal background. To avoid bringing in any indication, instead of asking questions with personal implication of the answer, I have started the interview questions mainly with “what” and “how”. As for the transparency, it refers to the “honesty about the research process” (Tracy 2010, 841). Creswell & Miller (2000, 128) have suggested to document all research decisions and activities to prove how the research was conducted. In this study, all the interviews have been recorded with video via Microsoft Teams and archived for further needs. When doing the data analysis, video data have been made into transcripts via word document, and later summarized into an excel for the convenience of data analysis.

Credibility is also referred as dependability, reliability or replicability based on the research context (Tracy 2010, 843; Lincoln & Guba, 1985). For qualitative research, it is suggested to apply thick description to provide the audience enough of the background information and show the details of the scene. In my research, I have followed this rich principle and showed direct quotation from interviewees. So that the readers can make their own decisions based on the data.

Resonance means the influences or impacts that the research has on the audience. One of the aspects of resonance is its transferability (Tracy 2010, 845). Transferability, as indicated by its name, refers to how the situation or story can be applied to one’s own situation. As a common misunderstanding, qualitative research often is based in a certain context or

culture situation, it cannot be generalized (Flyvbjerg 2006, 220). As mentioned by Tracy (2010, 845), many qualitative researchers aim to generalize within the case instead of across cases. Despite of the context setting, learnings or conclusions can be still transferred in other settings within a larger frame. In this case study, similar knowledge could be applied to other corporates that are facing to similar market entry activity to China. Some of the general learnings about internationalization could also apply to other similar business events to other countries.

Significant contribution can be divided into several aspects, including theoretical significance, heuristic significance and practical significance (Tracy 2010, 845). Theoretical significance meaning the contribution into scholar community, for instance, about new concepts on top of an existing theory (Tracy 1995, 210). When the new understanding helps in developing novel concepts, or inspiring future research, it is providing heuristic significance. While as if the knowledge could provide some practical significance, it could be practically significant. This study is providing significance on the practical level for company A to achieving a successful market entry. The knowledge from this study will be utilized to assist market entry of system X.

### **3.5 Research ethics**

Research ethics is critical to ensure the research results are credible and reliable. This thesis has been conducted with honesty and integrity based on responsible conduct of research guidelines (Finnish advisory board on research integrity, 2012).

Ethical considerations were taken throughout different stages of the study procedure. Procedural ethics instruct researchers to provide the nature and potential consequences of the research to participants, as well as notifying the voluntary nature (Tracy 2010, 847). In this study, the participants were instructed about the scope of the study, the interview content and their decision on whenever they would like to continue or not. Additionally, the consent of the interviewees was asked before starting the video recording. As described by Miles & Huberman (1994, 291), weak consent might lead to poorer data as respondents would provide data which protects themselves better. Privacy and anonymity are other key principles of an ethical research. As claimed by Saunders & al. (2019, 258) that “reliability of data is likely to be enhanced where confidentiality and anonymity are assured”. In this study, company name and product name have been coded with letters, such as A, B and, to maintain the confidentiality. Furthermore, no names or positions of the interviewees were provided to ensure the identity privacy.

Relational ethics is another aspect that has been taken into consideration during the study. Relational ethics refers to “an ethical self-consciousness in which researchers are mindful of their character, actions, and consequences on others” (Tracy 2010, 847) and conduct the research with “integrity, fairness and open-mindedness”, “respect for others” and “avoidance of harm” (Saunders & al. 2019, 257). During the study, I have kept a mutual respect with participants, leaving pauses during the interview process to ensure the participants’ feelings were well considered. I have also been very mindful about the interview content and questioning tones to minimize the risks due to emotional or discomfort situations.

## **4 Case description and research findings**

In this chapter, I will start with an introduction of the background of the case and the case company. Following the background, I will continue introducing the healthcare industry of China based on secondary data resource. Lastly, I will present the empirical findings from the five semi-structured interviews and discuss the different themes that are analyzed from the data.

### **4.1 Case background**

Company A is an MNE with the headquarter in the United States and subsidiaries all around the world, including Finland and China. The main business unit of system X is located in Finland, which include core functional teams such as research and development team, manufacturing team, service and support team, quality and regulatory team etc. Based on the product development cycle, the research and development team can be further divided into a development team who focuses on new product line development, testing team who verify and validate the products and sustaining team who take care of the post market actions. The operations team also include various functions such as logistics, supply chain, and manufacturing. As one of the product managers of system X, I am located in Finland and work closely with the business unit of the product.

The functions of company A subsidiary in China are also very wide. It has offices or presence covering different regions in China and mainly locates in major cities, for example Shanghai, Beijing, Guangzhou and Wuhan. It has strong presence as a laboratory consumables and instrumentation suppliers with several big manufacturing factories. Additionally, it has two innovation centers to strengthen the local research work, customer interaction and brand building. The local team, who are in close contact with international business and collaborations, are limited to several functions, such as business development, sales, quality and regulatory and service teams. In the market entry process, product management works as a linkage in between the two subsidiary groups, shown in figure 3.

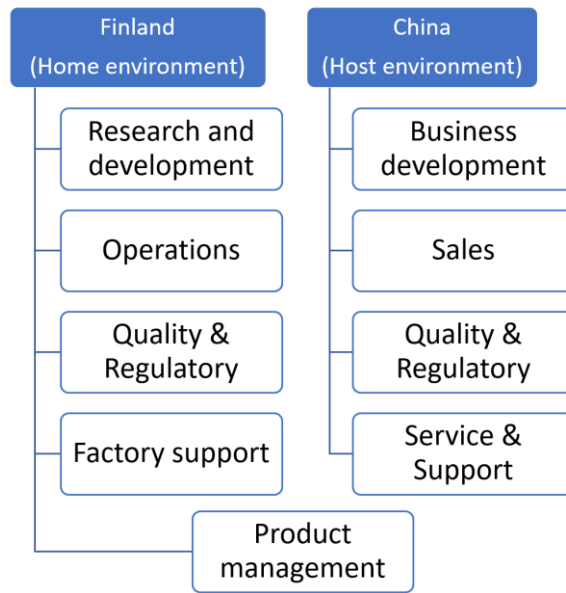


Figure 3. Organization structure of company A

System X is an in vitro diagnostics (IVD) system which is targeted for clinical laboratory usage. The highly innovative technology and customer-driven solution make the system the first-of-its-own-kind and is expected to achieve a huge success in Chinese market. While the system is getting ready to explore its way to the local market, it is crucial to know the basic characters of Chinese healthcare market. In the following sections, the targeted industry will be introduced from the perspective of government support, healthcare providers and regulatory point of view based on secondary data.

## 4.2 Chinese healthcare industry

In this chapter, the secondary data resources consisted of government official publications and reports, industrial websites and published articles. Keywords used for searching the information were in both English and Chinese, including healthcare, health services, health center, health organization, primary care, hospitals, clinical industry, medical device and IVD. Details of the resource list are listed in table 3 below.



Table 3. Secondary data resource list

Reports	Report names	Published year
	China 2030 - building a modern, harmonious and creative society	2013
	China health and family planning statistical yearbook 2016	2017
	Annual report on China's private hospitals development	2019
	Regulations for the Supervision and Administration of Medical Devices	2021
	National Healthcare Industry Development and Statistics	2021
Websites	Access	Website names
	<a href="https://www.statista.com/statistics/279402/health-expenditure-in-china-as-a-proportion-of-gdp/">https://www.statista.com/statistics/279402/health-expenditure-in-china-as-a-proportion-of-gdp/</a>	Health expenditure in China as a proportion of GDP 2010-2020
	<a href="http://en.nhc.gov.cn/HealthyChinaActionPlan.html">http://en.nhc.gov.cn/HealthyChinaActionPlan.html</a>	Health China Action Plan 2019 - 2030
	<a href="https://www.marketresearch.com/Research-in-China-v3266/China-Independent-Clinical-Laboratory">https://www.marketresearch.com/Research-in-China-v3266/China-Independent-Clinical-Laboratory</a>	Market research, China independent clinical laboratory industry report, 2017- 2021
	<a href="https://www.marketresearch.com/Research-in-China-v3266/China-Independent-Clinical-Laboratory">https://www.marketresearch.com/Research-in-China-v3266/China-Independent-Clinical-Laboratory</a>	Market research, China independent clinical laboratory industry report, 2017- 2021

	<a href="https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/identifying-private-sector-opportunities-in-chinese-health-care">https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/identifying-private-sector-opportunities-in-chinese-health-care</a>  <a href="https://data.stats.gov.cn/">https://data.stats.gov.cn/</a>  <a href="https://www.sohu.com/a/205765718_632016">https://www.sohu.com/a/205765718_632016</a>  <a href="https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=CN">https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=CN</a>  <a href="https://www.researchandmarkets.com/reports/4769738/china-independent-clinical-laboratory-industry?utm_source=CI&amp;utm_medium=PressRelease&amp;utm_code=mtd32g&amp;utm_campaign=1243684+-+The+Independent+Clinical+Laboratory+Market+in+China">https://www.researchandmarkets.com/reports/4769738/china-independent-clinical-laboratory-industry?utm_source=CI&amp;utm_medium=PressRelease&amp;utm_code=mtd32g&amp;utm_campaign=1243684+-+The+Independent+Clinical+Laboratory+Market+in+China</a>  <a href="https://www.sfdachina.com/info/94-1.htm">https://www.sfdachina.com/info/94-1.htm</a>  <a href="https://www.fda.gov/medical-devices/ivd-regulatory-assistance/overview-ivd-regulation">https://www.fda.gov/medical-devices/ivd-regulatory-assistance/overview-ivd-regulation</a>	McKinsey & Company, identifying private-sector opportunities in Chinese health care  National bureau of statistics of China  Sohu News, foreign invested health care institutions in China  The World Bank, current health expenditure per capita China  Research and markets, China independent laboratory industry report, 2019 - 2025  RJS MedTech, IVD (in vitro diagnostic) in China  U.S. Food & Drug Administration
Articles	Article names	Author(s)
	What are the similarities and differences in structure and function among the three main models of community health centers in China: a systematic review	Li H., Qian D., Griffiths S., Chung R. & Wei X. 2015
	Ten years of China's new healthcare reform: a longitudinal study on changes in health resources	Chen J. & al. 2021

An overview of the Chinese healthcare system	Yi B. 2021
How does health spending in the U.S. compare to other countries?	Wager E., Ortaliza J. & Cox C. 2022
China's healthcare system: addressing capacity shortfalls before and after COVID-19	Nelson L. 2021
Healthy China 2030, a breakthrough for improving health	Tan X., Zhang Y. & Shao H. 2019.
Local protectionism, regional production networks, and spatial allocation of firms in China	Shi X. 2022.

The healthcare industry, also referred as medical industry, is a very important sector which has shown a major growth. From 2010 to 2020, expenditure on healthcare as a proportion of the gross domestic product (GDP) in China has grown from 4.84% to 7.1% (Statista 2022c). However, it cannot be ignored about the low number of health expenditure per capita in China, 535 dollars, while comparing to the United States as the highest among the world, 10921 dollars respectively in 2019 (The World Bank 2022). Even comparing to the country average globally, 5736 dollars, China is still significantly low (Wager, Ortaliza & Cox 2022).

The Chinese national medical security system consists mainly of the basic medic insurance and medical aid. Additionally, there are commercial health insurance and charity donation as supplementary options (The World Bank & Development Research Center of the State Council, the People's Republic of China 2013). By 2020, there were over 95% of Chinese population covered by the basic medic insurance program (Yi 2021, 93). Figure 4 below illustrated the statistics on public health sector from 2016 – 2020 (National bureau of statistics of China). Total health expenditure means the total expenditure on medical and health care services of China. Government health expenditure refers to the expenditure on medical and healthcare services, health administrations and health insurance from the government side, while social health expenditure means inputs of society excluding the government side. This includes for example the social medical security, commercial health insurance and social donation. Lastly, when excluding the government and social health part, the remaining expenditure is the out-of-pocket health expenditure, which refers to the self-payment that residents are responsible of.

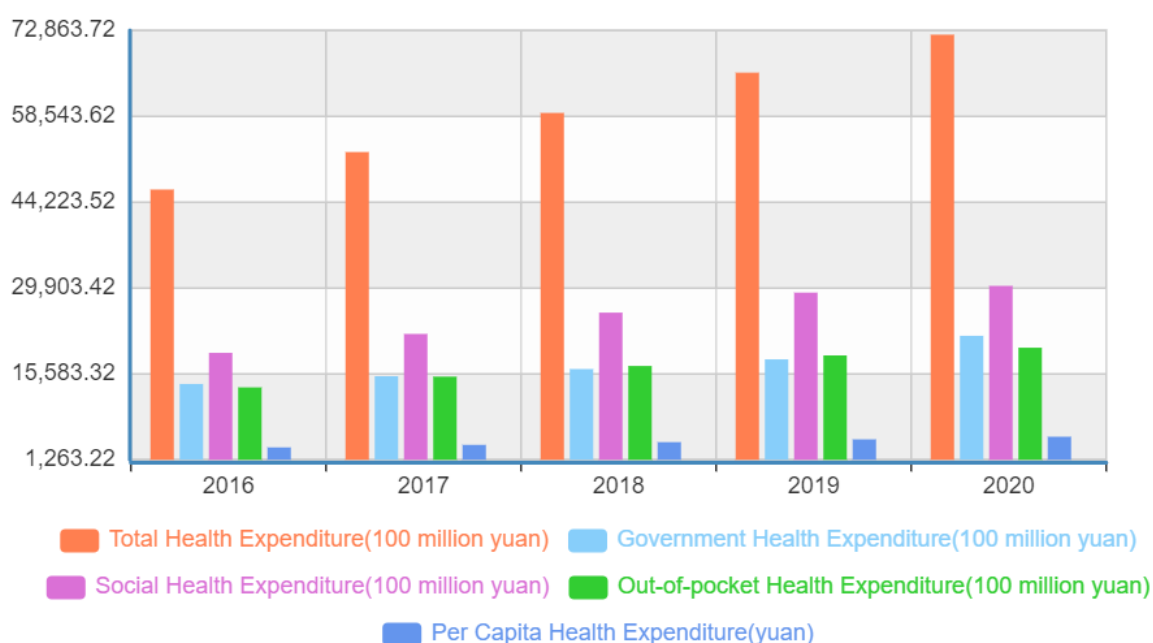


Figure 4. Total health expenditure in China from 2016 to 2020 (National bureau of statistics of China)

When comparing the data in table 4, total health expenditure of China has increased 57% from 2016 to 2020 and 4634.5 billion yuan to 7217.5 billion yuan respectively (National bureau of statistics of China). Also worth mentioning, the residential responsible expense has dropped from 28.8% in 2016 to 27.6% in 2020. This also matches with the national guidance on decreasing health care expense on the personal level (Tan, Zhang & Shao 2019, 96).

Table 4. Total health expenditure in China from 2016 to 2020 (National bureau of statistics of China)

Indicators	2020	2019	2018	2017	2016
Total Health Expenditure(100 million yuan)	72175.00	65841.39	59121.91	52598.28	46344.88
Government Health Expenditure(100 million yuan)	21941.90	18016.95	16399.13	15205.87	13910.31
Social Health Expenditure(100 million yuan)	30273.67	29150.57	25810.78	22258.81	19096.68
Out-of-pocket Health Expenditure(100 million yuan)	19959.43	18673.87	16911.99	15133.60	13337.90
Per Capita Health Expenditure(yuan)	5112.34	4669.34	4206.74	3756.72	3328.61

Besides the solid growth in health expenditure, a number of other challenges have also been pointed out about the Chinese healthcare industry. These include unequal distribution of healthcare resources, hampered efficiency due to insurance policy and inadequate physicians or caregivers (China Yearbooks 2017). The challenge of aging population and chronic disease have been highlighted in the report by Nelson (2021). Geographic inequalities have been observed by Chen & al. (2021, 2272). They have compared among the four resources, namely healthcare institutions, beds, health expenditure and personnel. They mentioned that the beds are distributed more equitably than other health resources. Health expenditure and health personnel are more concentrated in the wealthier areas (Chen & al. 2021, 2272).

Acknowledging these challenges, the Chinese government carried out an initiative as “Health China 2030”, which is considered as a breakthrough with the concept of “Health for all, and all for health” (Tan & al. 2019). This initiative aims to “accelerate the expansion of high-quality health resources and the balanced distributions of such resources among different regions” (National Health Commission of the PRC 2019). This showed the effort to

optimize the health service and developing the health industry, which also means a great opportunity for healthcare providers.

#### 4.2.1 Chinese clinical laboratories

The healthcare institution system of China is complex and consists of various levels. There are three major models of the primary care providers, including government managed, hospital managed and lastly privately owned (Li, Qian, Griffiths, Chung & Wei 2015, 504). Hospitals and primary medical and health institutions (PMHI) are the majority categories for medical and healthcare institutions (Chen & al. 2021, 2272). Besides hospitals, the majority of healthcare institutions are actually taken by the healthcare institutions at “grassroot level”, namely urban health centers, township health service centers, village clinics. Lastly, there are also some other key institutions, such as specialized public health institutions, centers for disease control and prevention (CDC), women and children care agencies and health inspection institutions (Liu, Zhao & Chen 2019).

Figure 5 showed the main categories of Chinese healthcare resource and their general trend from 2016 to 2021. Number of healthcare institutions shows the whole sum of medical and health care institutions, which have been qualified, for example by the Administration of Public Health, the Civil Affairs or Administration for Industry and Commerce. In 2021, there are 37000 units of hospitals, comparing to 31056 units in 2017. With a general increasing trend of health care institutions, the grassroot level also showed an increase, with an additional of around 7000 units only during one year from 2020 to 2021.

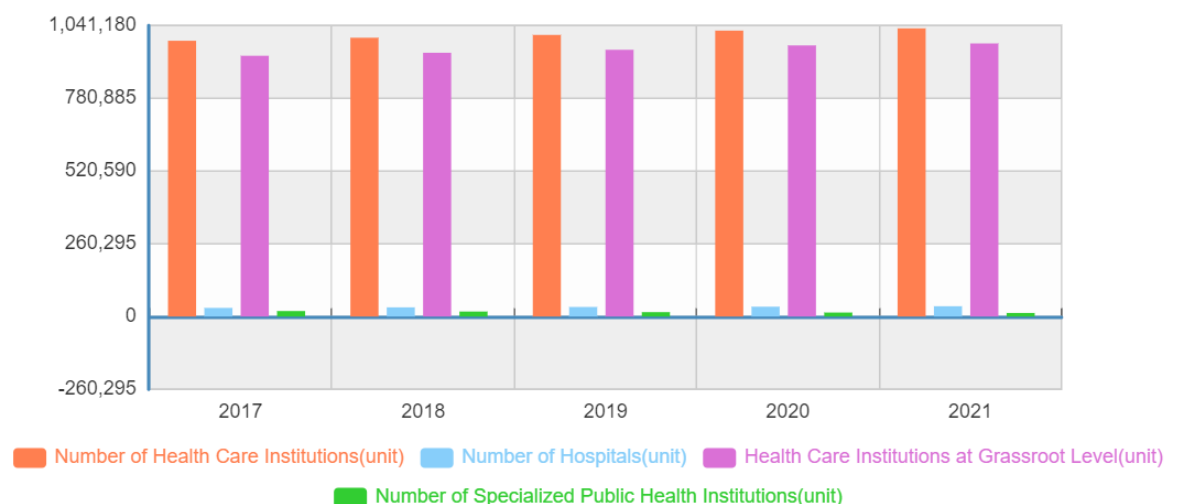


Figure 5. Healthcare system in China 2017 - 2021 (National Healthcare Industry Development and Statistics 2021)

According to the classification rules, hospitals are classified into three grades, including tier 1 (primary), tier 2 (secondary) and tier 3 (tertiary). Each tier is then further divided into three subsidiary levels as A, B and C. Additionally on top of tier 3, there is one level for the most specialized hospitals, referred as 3AAA. To sum up, the hospital system in China is also called as 3 grades and 10 levels (“三级十等”). In the report of National Healthcare Industry Development and Statistics (2021), the growth of healthcare organization is mainly shown in the hospital level. By the end of 2020, there are about 1580 3A level hospitals in China providing comprehensive healthcare service.

For clinical laboratory testing market, the main revenue comes from the hospital laboratories. Along with the technology development and automation, clinical laboratories are undergoing radical changes to adopt high technologies. To reduce the over utilization on public sectors, the government has launched key reforms to support private sectors and reshape the clinical industry. For example, there is an increasing need for outsourcing the complicated tests to combine resource, which could possibly increase the need for commercial laboratories (McKinsey & Company 2010).

The healthcare services have been dominated by public sectors, however private sectors started to play a bigger role in China (Sussmuth-Dyckerhoff & Jin 2010). Comparing to first class 3AAA hospitals with over 300-500 test items, these independent clinical laboratories can offer more than 2000 test items (Research and markets 2019). In 2018, the market share of independent clinical laboratories was about 5%, of which KingMed Diagnostics has showed a dominant position of 22.8% of market share (Market research 2022). It has been estimated that the market size will continue to grow, reaching RMB 96.7 billion by 2025 (Research and markets 2019). Despite of the fast growth, it is worth mentioning that the market share is still far below the developed countries, such as in Europe and the United States (Market research 2022).

#### **4.2.2 Chinese IVD industry and its regulative institutions**

When referring to the IVD industry, it is critical to acknowledge the concept difference in China when compared with the United States or European Union. In vitro diagnostics refers to the tests done on samples that have been obtained from human body by the U. S. Food & Drug Administration (2021). It is considered as a branch of medical devices (MD) both in the United States and European Union. While in China, there is no single concept of IVD, but rather it is blended into a few concepts of MD, IVD reagents and drugs. IVD devices belong to the category of MD, as same as most of the IVD reagents. As the only two exceptions, blood source screening and radiolabeled IVD reagents are categorized as

drugs (National Medical Products Administration 2021). In the same regulations (2021), a MD is defined as “Any instrument, apparatus, appliance, material, or other article whether used alone or in combination, including the software necessary for its proper application. It does not achieve its principal action in or on the human body by means of pharmacology, immunology or metabolism, but which may be assisted in its function by such means; the use of which is to achieve the following intended objectives: 1. diagnosis, prevention, monitoring, treatment or alleviation of disease; 2. diagnosis, monitoring, treatment, alleviation of or compensation for an injury or handicap conditions; 3. investigation, replacement or modification for anatomy or a physiological process; 4. control of conception”. The relationship among MD, IVD and drug has been illustrated by RJS MedTech and modified in figure 6:

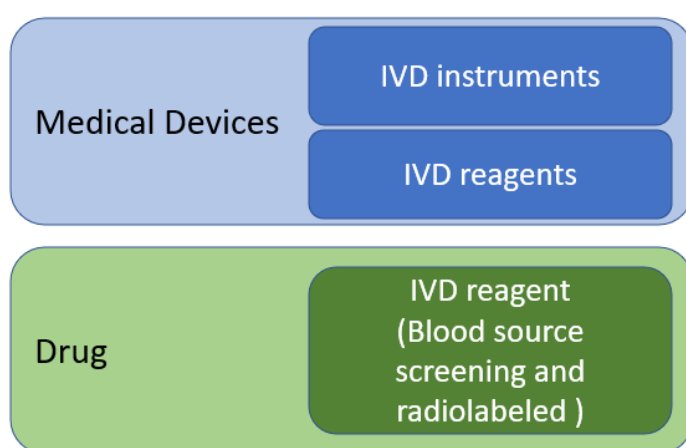


Figure 6. MD, IVD and drug in China (modified based on RJS MedTech)

There are several governmental parties forming up the regulation and administrative environment in the Chinese IVD industry. In 2018, China Food and Drug Administration (CFDA) transformed into National Medical Products Administration (NMPA), which is responsible for supervising the safety of medical devices and regulating the new product registration process. In the same year, proposed in the “State Council Institutional Reform Program”, State Administration for Market Regulation was established and in charge of areas such as market regulation and supervision. During the change, NMPA was merged to the newly created agency. This update has also introduced various policies and regulations, as well as an extension of the product registration time. According to Song & Zhu (2020, 4), a decrease of 20% each year was observed on the number of newly approved IVD products and imported product registration certificates.



Similar to many other countries, medical devices in China are also divided into different classes based on the risk level, which further impact on the registration process. There are three classes in total. Class I medical devices refer to these with lower risks and “safety and effectiveness can be ensured through routine administration”, for which only file submission to local supervision and administration department would be sufficient (National Medical Products Administration 2021). As for Class II, they are the medical devices with medium risks and Class III as the higher level. Both of these classes would require product registration administration, with a difference that Class II can submit to the regional or municipality level, while Class III is subject to submit to the national level (National Medical Products Administration 2021).

Regulative factors play a key role in internationalization process, as all medical products must be registered in one way or another to NMPA according to their classes. Local protectionism can be also seen through the registration process. Products manufactured overseas are subject to fulfil more requirements or taking more actions, such as submitting samples of the device to NMPA for analysis. Registration documents are required to be provided in Chinese in addition to the original versions (National Medical Products Administration 2021). In the “China health and family planning statistical yearbook 2016” (China Yearbooks 2017), the market share of foreign involved/invested healthcare institutions reached around 200 in 2016, of which 55% are in clinic format as the light investment. Meanwhile, according to the Development report on private hospitals in China (1984 - 2012), the number was already around 160 up to 2003 (Sohu News 2017). This means that the increase was very slow during the ten years of 2003 – 2014. Not only due to the low profit, but mainly because the strict regulative requirements on ownership percentage between foreign and local, long process of registration and difficulties in certification. This protectionism is particularly seen in industries with high-value addition, including telecommunication, software, information technologies and metal products (Shi 2022, 4091096).

### **4.3 Interview findings**

The interview data is analysed with thematic method and the themes are listed in detail in the end of this chapter. To present the data in a clear format, the direct quotation of the interviewees’ response has been indented.

#### 4.3.1 Internationalization process from an institutional perspective

Company A entered China firstly as a joint venture and later established a wholly foreign-owned enterprise in China. For the market entry of a new product, one key theme mentioned by the interviewees was the stronger governmental support to the domestic manufacturers and productions. They expressed this as a “clear trend” from the regulatory point of view. Similar was emphasized by the interviewees with home country background as an accelerated need for collaboration with local companies or partners:

For example, company B (competitor) has just signed the collaboration with a Northeast company for the development of automated tracks. So the advantage of “made in China” is getting stronger. Pure foreign companies are encountering more and more difficult situations if without a good collaboration or special strength.

Chinese government is supporting domestic productions. This is a trend and can be also a challenge. This is a future trend... Generally, the registration process is longer for international products comparing to local products.

Regulatory compliance was another key theme mentioned in the interview. As described by the interviewees, one of the most critical steps to enter Chinese clinical world was to get certified according to the local regulatory system. “To enter IVD industry, registration with certificate is a must”, said by one interviewee. When comparing different registration processes, it is crucial to consider based on the domestic standards or policies. For example, one interviewee mentioned the slight difference when comparing Chinese standards with the ones which are recognized by Europe and/or USA. This indicates that when a product achieves IVD/CE certificate in Europe, it does not necessarily mean that it will receive the certificate from China. The registration process in China needs to be planned and scheduled carefully, including the possible updates needed to certain criteria to fulfil the local standard requirements. One interviewee recalled the following:

In Europe there are a lot of ISO standards and in USA there are the EPA (Environmental Protection Agency) method....Most countries recognize those two, so if we had these international references, it is acceptable for majority of countries. But China was slightly different in a way that they had their own standards which usually were close to the international ones, but slightly different, so there could have been a teeny tiny difference to the international standard method.

From the host market environment point of view, several phenomena have been shared by the local interviewees. The first one was that the fast speed when people work with local companies. Keywords, such as “flexibility”, “bold moves” and “can-do attitude”, were highlighted several times by the interviewees. One interviewee compared the working attitude when working with other international projects, and explained:

Everything is possible in China. I mean, not like illegal, but in the business point of view. You will find the solution and that is the attitude actually in our team, but also the suppliers, distributors, those things are possible.

Another point was the trend of combining segmented services into one. Instead of including multiple suppliers into the post-sale service, a concept of “comprehensive supplier” was born to emerge different roles. “Instead of one supplier to provide sales channel, one supplier to provide transport services, another supplier to be responsible for storage, you will be dealing with one supplier only”, mentioned by one of the interviewees. This type of comprehensive supplier integrates the functions into one, which is more convenient for end consumers as there will be only one contact point. Additionally, a concept of “zero storage” in hospitals was noted:

Selling mode is changing from sales of instrument/reagents to comprehensive service mode/total service provider. This means that kind of trend from competing the product to competing service. There are this kind of comprehensive service provider, who goes to check in hospitals the needs for the whole department. The more customers they get, the lower cost it would be, also it will help hospital to release the pressure of product inventory and operation with zero storage. So in general, buy-sell-storage are all taken care of by this kind of service provider.

Thirdly, product service was an important part to ensure a positive customer satisfaction during post sales stage mentioned by the interviewees. As a local isomorphism, many healthcare providers implemented a role to support end customers at their premises, called as “resident representative” (驻厂代表 in Chinese). “Resident representative” is employed by the service provider, but functionally works at the customer site and supports defined customers. This role derives in order to provide product support to customers in a fast and dedicated manner and ensure the system uptime. Explained the interviewees, the resident representative was even responsible to operate the system so that it could release workload from customers’ side in some special cases:

It is similar to sales ambassador, who stays at the customer site in the hospital for long term. It is called “stay-in” in China.

They would have resident supports at the customers, to assist with troubleshooting and responsible for application of the instrument. For some customers they don't even use the instruments themselves, but the resident support will perform the tests.

#### **4.3.2 Social norms and network**

Based on the interview data, relationship (“关系 guanxi” in Chinese) was one of the most critical aspects to make business success in China in terms of social aspects. In fact, the importance of relationship building was emphasized by all interviewees as a key success factor in China. Words such as “critical”, “very”, “really” were used several times to emphase

the importance level. Besides the vital importance, the interviewees also highlighted the points of long-term investment of time and energy in the Chinese context:

It takes years to have the real relationship and you should not be waiting for big profits. It will take several years before you are established, and then you can start picking the fruits of your business.

Relationship is so critical and so that you really invest enough time and efforts for building the relationship and after you have a relationship. You started like a trusting situation...

Interestingly, relationship was referred as a personal tie, even under a working or business context. "Relationship is person to person", mentioned by one interviewee. The same was noted by another interviewee as "individual":

In China it's very personal. So it's not like an organizational thing that you need to somehow understand. When you are talking about the government organization, it's really not the government who is there, it's really those individual people, which is the challenging part.

Additionally, one interviewee recalled that how the personal relationship helped him in achieving a business goal in a much easier manner with the Chinese colleagues:

So what I learned that in China especially having these really close relationships. This is very important. So not just that the quality of the products and all that, but really to have like almost personal relationships that was really very important.

The significant impact from KOL was also reflected in the interview. When the professionals or expert mention certain benefits of a product, the others will likely follow in the industry. Based on the interview finding, their social impact was far more effective than the promotional material provided by the manufacturers:

...when they (customers) are satisfied with our products, they also promote those internally and especially if it's a lab that is like a standard lab or like a government lab, who's doing their testing then, there are great chances that other labs will follow.

There were also different ways to connect with KOLs described, to maintain a good relationship with them:

Every year there are conferences with all kinds, including the online conferences, as a promotion and maintain the relationship...It is critical to have expert recognition and approval, or industry KOL evaluation. Especially if he/she has participated the method development and validation for certain standard procedure (for the national standard method), as a pioneer in the industry, the recognition of the method of your product is much more beneficial.

### 4.3.3 The role of customers in a value co-creation process

Customer segmentation is a classic topic in market research, which was also highlighted in the interview results. Customers in the clinical industry have quite different profiles based on their primary business setting. As introduced in section 4.2.1, laboratory purpose can be various as public owned clinical laboratories, research laboratories or commercial ones. Each user type has their own focus of interests. From the interview results, clinical users focused more on the clinical meaningfulness of the product, such as how it helped in diagnosis, how it impacted their routine workflow, how much time it saved to receive the result:

They care very much about the clinical meaningfulness, the application, the special feature and value of the product. On the contrary, they won't care so much about the price. For commercial laboratory customers, the first thing they care about is the cost. Because it is commercial driven activity.

Another key point noted was the system uptime and service response time. Naturally, this is very critical for clinical practitioners as it tightly links to how quick they can make diagnosis to patients who are under time pressure. Based on the interview finding, research users were more relaxed on the service side, however they focused on wider aspects, such as the function of the product, the data processing, flexibility on the method development and research publications:

The flexibility, function, the way how the data process is done, the whole ability for technology support. Of course, it might also include experiment design and article publishment and such...

As for commercial laboratory users, their main target was to make profit, so large testing volume ability was a key benefit. Furthermore, there was tight requirements for cost, labour saving, and the range of testing menu. Naturally, commercial laboratories have more demanding requirements for service and support. Because the higher they maximize the testing volume, the better profit they can make:

One thing they care very much is if the instrument is broken, will there be support immediately. In China after report the issue, they are expecting to have an engineer visit in 2-4 hours.

The role of customers was no longer mentioned as end users, but as content producers. As referred in the previous section about the KOLs' impact, they do not only influence the industry, but also help in shaping product features and their values. Customers can produce user reviews of the product, which could be multiple times more effective than

advertisement or promotional material provided by the manufacturers. Various ways of value co-creation were presented, for example “collaborations with research study to bond together”, “use the customer’s lab as a show case”. Research centers or customer innovation centers were another way to achieve the value co-creation process, mentioned by a few interviewees. This helps in realizing the localization of the products. Feedback from end users will be implemented in a much faster way. The innovation centers act as direct links with customers. These links enable the customers to generate new ideas and values of the products with the local team, implement the local requirements to the products and make it more suitable for Chinese market:

Many foreign companies have established the research center in China. So the aim of research centers in China are for doing research adapting localization and local needs, and also for product improvements.

The idea behind the innovation center is to modify products to better suit the Chinese markets....Of course, and the idea is not only for, for example, localising components. The idea is that that the China marketing team should feed the needs from the Chinese customers that that this instrument, for example instrument is OK, but in China we would need this and that, and then it might be a project to create the version or fully new instrument for only the Chinese market.

While the role of customers is transforming, it is worth mentioning that the attitude towards customers is also changing. During the interviews with Chinese participants, they referred the customers as “master” (“lao shi” in Chinese). As personally rooted with Chinese Confucian culture, I am deeply aware that this entitles people with high level of knowledge and expertise. The term of “lao shi” is not limited only to its original meaning as “teacher” or “master” referring to the education industry, but has evolved to a term to show respect to another in the modern way. By calling the customers “lao shi”, this showed not only the respect in the attitude, but is also a solid proof that customers have contributed to the value generation process:

I have visited many "lao shi" in hospital and research center, industrial/company distributor.

Localization of the product was especially mentioned by the interviewees as a “critical challenge” for international projects. The key concern was around the unsuitable features for the local customer needs. As also mentioned in the earlier chapters, how to enable customers’ power to make the product more localized? It will be a key focus during the market entry activity. Interestingly, the counterpart was also noted by the interviewees. Besides localizing the product, the interview finding highlighted the importance to keep a balance in the uniformity of the product from a global market point of view. The strategic decision is vital for management to decide before entering the market:

It's up to obviously the business to decide that you're going to have a global product, same features for everything or something special there. But that's again it's depending on the how you develop the product.

#### **4.3.4 Digital impacts**

There were several key topics around digitalization mentioned by the interviewees, mainly around the data safety and its impact on relationship building. The attitude towards digitalization was also quite with mixed feelings, including both positive and negative aspects. Digitalization enabled many connectivity possibilities and also accelerated the connection with customers with more solutions. Many clinical diagnosis systems implemented the remote connection functionality, so that the service personnel could do system check and support the customers remotely. This fastened the speed of customer service and also provided an opportunity to predict certain maintenance actions to increase the system uptime. Digital patient history and laboratory information system helped the daily administrative work for healthcare providers.

Many companies are developing this area. For example, they would have Wechat (a Chinese communication app) service report function, so in Wechat they would build a service tracking and condition update...The service center platform could send alert beforehand, then the engineer could go visit the customer for the maintenance work.

Besides improving customer service, digital healthcare and online clinics also showed a trend in China as a way to provide advice service. Along with the trend of bloggers, some doctors have also established their personal accounts and share medical practices via the digital format. For the patients, the best benefit was that the service was easy to get and avoided the pain of long queues in the hospital. Especially for the trained and qualified doctors, the digital method provided an agile way for doctors to connect with patients more easily. Besides the flexibility that digital healthcare could bring, interviewees also showed concerns about the feasibility of the concept:

The digitalization has brought a lot of convenience in lift. In China the industry is promoting electronical medical history, laboratory result mutual recognition, online clinics, it's getting more and more.

Healthcare provides professional service and you cannot just cure a disease by googling.

However, a strict connection control was also observed in the clinical industry. This data security relates to patients' information, which is often confidential and sensitive. Due to the data privacy requirements, some companies have transferred or established their data storage centers to China to make sure certain functions can be implemented. This

phenomenon was observed in other countries as well. For example, ByteDance, as a Chinese company, has established a subsidiary TikTok in US with a US-based data server so that TikTok can operate in the country. This is to keep aligned with local regulations to expand own business:

Some companies have transferred their server/data center to China, so that the government can supervise the data, for example Tesla.

From the aspect of internationalization process, interviewees mentioned that relationship building needed to be face-to-face. The digital method cannot replace the physical contact. Especially towards customer visit, digital method provided the convenience but could also cause a dilemma. For example, digital method could assist in fast communication in agreeing on meeting up. However, to explore the topic decently, meeting face-to-face would be essential. Digital method served the clinical industry as a good assistant tool, but it would be challenging to replace the function completely:

I'm losing now contact because there are people changing and now I have some colleagues that I have never met face to face and I can see that it's not so easy any more.

I did feel that for many of the Chinese customers, they really also appreciated the fact that someone from the factory, so all the way from Finland actually travelled there and visited them.

How do you build the relationship? actually the it's really meeting face to face, several meetings, dinners and all that.

#### **4.3.5 Supplement data summary**

To increase the transparency of the data collection and data analysis steps, more narratives from the interview are recorded and categorized in different codes and themes in table 7, shown below.



Table 7. Supplementary interview data

Themes	Codes	Quotes
Internationalization process	Industry isomorphism: flexible attitude	That's the difference in Europe...I think sometimes in Europe we always start with why this cannot be done. It's always why this cannot be done. It's totally opposite in China. They say that how can we do it, let's find us a way of doing that and that's that. That makes it so much optimistic way of moving.
	Industry isomorphism: collaboration for win-win situation	<p>Very often it's from distributor as they are in the frontline and can provide application support and fast response. The other function of these roles is to increase the usage amount and help with clinical adoption...</p> <p>In China, it rarely uses direct sales mode, but more via distributor collaborations. The selection of distributors needs to be considered carefully, for example their overall performance, which industry/field are their customer resource, which type, and if that matches with our future target customers. Also if they have experience in selling similar product, their customer coverage and service coverage.</p> <p>Selling mode is changing from sales of instrument/reagents to comprehensive service mode/total service provider. This means that kind of trend from competing the product to competing service...it is a win-win situation, as saving human resource, save cost and all aspects.</p> <p>...the most important is that you choose the correct partner that you can trust and he or she can trust you...</p>
	Industry isomorphism: service need	The expectation for efficiency of the service is rather high, as the average industry level is rather good. As basically for a hospital, if an instrument is broken, it will impact their ability to produce the report, so the needs are very urgent. Basically, they are on call and will arrive within 1 or 2 hours.

Themes	Codes	Quotes
	Industry isomorphism: fast - changing	<p>Chinese companies react much faster than global ones. For the national companies, they will try their best to realize and fulfil customers' requests. But for foreign firms, they would not do it for one single customer, unless this customer is a big influencer. They will evaluate how this may impact the business. So that the process will take long.</p> <p>To be noted, the development speed is very quick.</p> <p>China things are developing much faster than in Europe, everything happens much faster...You need to be fast. you should not actually waste too much time worrying.</p>
	Regulatory compliance	<p>Not that it would be excessive bureaucracy, but it's more than in the Western countries. Nowadays, for example in the regulated area, the approvals will take one to two years.</p> <p>For the product which has special advantage or feature, the key challenge is that if the test exists in the charge list in the Chinese hospital system...Each province has their own (pricing) policy, even there might be difference among cities, it is very disordered. Some information is not public, some you need to explore in the public information database, which is very complex and disordered. Sometimes there are different versions of update. In one province, there might be even differences in different cities.</p> <p>Health industry is very simple and straight, they care about if the program has clinical impact...also how mature is the analysis method, how is the automatic level, whether or not it is regulatory complaint, if you have the certificate...</p>
	Domestic protectionism	<p>Generally, the registration process is longer for international products comparing to local products.</p> <p>I think it's obvious that the Chinese government they support China manufacturing and there is a benefit.</p>

Themes	Codes	Quotes
	Market entry mode	We (company A) started in 1995, when we established first joint venture company, then we started the technology transfer. Then later (we) moved to fully foreign owned.
Social norms and network	Personal relationship	<p>You need to have the personal relationships and then everything goes smoothly.</p> <p>What I learned is that in China especially having these really close relationships, this is very important. So not just that the quality of the products and all that, but really to have like almost personal relationships, that is really very important.</p>
	Relationship is important	...If there's a long list of application and if your application is the last one. And if you have a relationship, you might be able to actually move that application to first one.
	Long-term orientation	<p>As the well-known KOL group are quite stable, the way how relationship is maintained is also for long term.</p> <p>It takes years to have the real relationship and you should not be waiting for big profits. It will take several years before you are established, and then you can start picking the fruits of your business.</p>
	Social norm	There were a lot of these additional kind of ceremonies. So not just the presentations, but it was important that there was a dinner, there was karaoke after the dinner...so the social part was in a quite key role, so that the customers felt that they were really appreciated...
The role of customers and value co-creation	KOL in shaping the value and position	<p>Actually, there are many doctors in China who do not yet know well about certain industry products, such as the difference of immunoassay products and the advantage, not to mention about the innovative technology. So it is very important to have experts approval and confirmation, have them to share the opinion.</p> <p>Really invest, find the partner hospital or end user, choose and utilize that (what) suits them, get the first understanding the Chinese customer needs...you might get this benefit of early bird</p>

Themes	Codes	Quotes
		when the system is like a new technology, which is coming in and then it can be like more standardized.
	Localization	<p>There might be very specific local market requirements, for example it is not a key program for international market, but it is critical for Chinese market. It needs to be considered from customer end and their clinical need.</p> <p>So there might actually be (analysis compound) interferences, which are not really common, for example in Europe. But they might be common there in China.</p> <p>...And then the idea behind this innovation center is to modify products to better suit the Chinese markets....</p>
	Value creation	We soon learned that in China, labour is cheap and they have plenty of employees. So we need to think about the new ways, how we are selling these to the customers...We needed to tweak the marketing message and really highlight the other benefits of the automation, like the robustness and the part that when you have robotics, then you don't get human error.
Digital impacts	Beneficial functions	<p>The digitalization has brought a lot of convenience in lift. In China, the industry is promoting electronical medical history, laboratory result mutual recognition, online clinics, it's getting more and more.</p> <p>The service center platform could send alert beforehand, then the engineer could go visit the customer for the maintenance work. Also, software upgrade can be pushed through the platform. Another trend is a centralized laboratory monitoring system, which can manage different instruments in the whole laboratory in one platform.</p>
	In-person contact is essential	For KOL communication, the digital way of communication cannot be deep. Because normally these group of people are very busy. If you call via online, the call may end in few sentences as you will be very focused on the needed subject. But if it is face to face visit, he and she will at least leave some time for you, it's easier to let the topic go deeper.

Themes	Codes	Quotes
		<p>I would like to really meet them and have some face-to-face interactions so that the chain would not break at some point of time.</p> <p>I did feel that for many of the Chinese customers, they really also appreciated the fact that someone come to visit from the factory, all the way from Finland travelled there and visited them.</p> <p>It's difficult to create a relationship via teams. You can do something. You can show your face, but it doesn't really take out the need of in-person meetings. Relationship is important in-person.</p>

## **5 Discussion and conclusion**

The objective of this study is to explore the influencing factors when firms enter Chinese healthcare market and to provide an in-depth understanding on the role of customers and how digitalization may impact on the internationalization. In this chapter, I will first discuss the main research questions that this study aims to resolve. Then I will revise the proposed framework based on the research findings. Following the revised framework, I will summarize the findings and make conclusions. Additionally, I will present my learnings and the value contribution of this study to my case organization. Lastly, I will reflect on the limitations and suggestions for future studies.

### **5.1 Discussion**

#### **5.1.1 Local factors**

My first research question is “what local factors may companies come across when entering the healthcare industry in China?”. This question has been studied based on the institutional perspective, with angles from both formal institutions and informal institutions. From the formal institutional point of view, it is critical to acknowledge the need to achieve regulatory compliance for all medical devices before starting the commercial activities to align with the legitimacy (National Medical Products Administration 2021). This was highlighted in the interview results that fully regulatory complaint diagnostic system would also allow easier clinical adoption and widespread usage as a strong advantage in the clinical industry. This is mandatory for manufacturers to ensure the results to be consistent, accurate and reproducible (Mayer & al. 2021, 1658).

Secondly, industrial norms need to be acknowledged when foreign products enter the healthcare industry in China. These industrial norms can form an isomorphic pressure for new entrants. Several examples were pointed out during the interview, such as the flexible working attitude and fast speed working style for both customer service and collaboration with partners. These industrial norms suggest the high willingness of firms to adapt quickly with changes and increase the competitive power in the local market. When entering a new market, organizations will start to learn from the success ones to achieve success (Haveman 1993, 593), this isomorphic pressure will likely also impact on system X when entering the Chinese healthcare market. When providing services to clinical customers, response time of customer service needs to be aligned with local industrial standard in order to maintain the market competitiveness. It is worthy to note that when a firm has stronger capabilities, it holds greater say with the business partners, which means that it can insist

on own strategy plan without seeking isomorphism with others (Li & Ding 2013, 506). Hence, it is essential for company A to acknowledge the existing industrial isomorphisms in China. Meanwhile, the management needs to take actions on differentiating from the competitors and navigating through the isomorphic pressure.

Informal institutions also play key roles in market entry activities. China is known as a relationship-based society. My research findings emphasize the importance of building a strong relationship when doing business in China. This aligns very well with the other studies in terms of *guanxi* and its role in achieving business success in China (Boisot & Child 1996, 600; Gao & al. 2012, 456; Puffer & al. 2010, 441). Relationships are used to describe a situation instead of being used as a noun. For example, when the relationship is strong, it has been referred as “they have *guanxi*” (Tung & Worm 2001, 517). Relationship is fundamental not only between home and host environment organizations, but also among different stakeholders in the host environment during the internationalization process.

It is essential to acknowledge that relationship building can take time and should be aimed at long-term. It requires a lot of effort and maintenance not only in the working setup, but also involved in ones’ non-work life (Chen & Chen 2004, 305). When people without Chinese background would like to achieve successful relationship with Chinese people, it is even more critical to recognize that relationship building is only a start, then it leads to trust with a long-term orientation (Lee & Dawes 2005, 28; Lin & Miller 2003, 286). This was also verified by the interviewees’ response. The finding of this research confirms the belief of Chinese people that the long-term commitment will result in a win-win situation.

The personal aspect of relationship is another theme analysed from the interview data. This finding aligns well with the earlier studies (Jansson & al. 2007, 961; Peng & Luo 2000, 486). As described by Lee, Tang, Yip & Sharma (2018, 365), *guanxi*, as a social network, is a personal link. For example, customer loyalty can be sometimes a salesperson-owned loyalty, which could be impacted when salesperson leaves the company. This can be confusing for foreign entrants to understand especially in a business context. When system X enters the Chinese market, these unique aspects of relationship need to be considered not only when build the network with customers, but also with local teams and partners.

### **5.1.2 The role of customers**

My second question to answer is about the role of customers during the internationalization process of system X in terms of value creation. Similar as mentioned in the study finding, a modern phenomenon about “*lao shi*” was also captured by Micunovic (2020) in his article.

This clearly shows the attitude towards customers in China with respect. Customers, as teachers, provide advice and inspire new ideas. This is an interesting finding from the interview, which also shows how the customers' position get evolved. Another key theme from the interview is around KOL and their impact. Definitive Healthcare (2019) defined KOL as "a trusted, well-respected influencer with proven experience and expertise in a particular field. In healthcare, these leaders can be physicians, hospital executives, health system directors, researchers, patient advocacy group members and more". Iyengar, Bulte & Valente (2011, 210) studied the impact of opinion leaders' network on the new product adoption and concluded the positive social influence on other customers. This special group of customers play a role not only as end users, but will also contribute to brand management and content generation. In the study by Wang, Salazar & Ben-Ur (2013, 1705), they highlighted the awareness of customer influence by MNE subsidiaries in China. By improving customer satisfaction and strengthening customer relationship management, it helps to establish corporate image in the market.

Moreover, my result findings suggest the importance of localization when the product enters a new market. Similarly, this was studied by Wang, Salazar & Ben-Ur (2013, 1705), who highlighted the need to adjust global strategy with a focus on brand management and also product development based on domestic market conditions, besides paying attention to the target market, demand forecast and advertisement. From the global product management point of view, the product localization needs strategic planning. As mentioned by Liu, Perry, Moore & Warnaby (2016, 357), the dilemma between standardization and localization needed to be balanced. The suggested strategy is to consider both the unique need of the local market and also the standardized brand identity overall. The more product variants a global corporate decides to develop, the more complex it will be to manage the product line. Surely, this is a harmonization process for the business management of system X to establish, especially when the product expands its market more widely.

### **5.1.3 Digital impact**

My third question is about the challenges and opportunities digitalization may bring to the market expansion activities of system X. The opportunities and benefits of digitalization are obvious based on the interview results. Analysis of the interview results found the digital improvements for system support and remote controls. Travel restrictions have impacted the international projects heavily due to Covid-19. But digitalization has truly transformed the business operation with higher efficiency and more connectivity (Reuber & Fischer 2011, 660). Furthermore, there are various digitalized medical devices created in the healthcare industry. Machine learning and intelligent technologies enable the artificial



intelligence application into different areas, such as patient care and diagnosis systems. These can positively contribute to the internationalization process of the products with remote connection and customer support.

On the other hand, the findings of this study suggest an irreplaceable aspect of personal contact. “It is difficult to create a relationship via teams.”, mentioned by one of the interviewees. In an environment where person-to-person interactions are crucial, digital channels are not enough to build the trust and strong relationship. In China, digital healthcare has become a hot topic, which online healthcare service is very often referred as “consultancy”. This digital consultancy makes doctor visit more reachable, however may lead to responsibility issues in the future (Milcent & Buchanan 2016, 41). The attitude towards this type of consultancy also varies, as there is no specific qualification on who can create such an account. This leads to an unregulated market and pose to potential risks. As studied by Watson & al. (2018, 30), digital interaction methods occur in a different environment than the traditional relationship building domains. In a way, a hybrid approach might seek new opportunities to close the gap in between geographical obstacles and interpersonal interactions.

#### **5.1.4 Market entry strategy**

My last question is about the market entry strategy, which aims to provide guidance in terms of system X entering the Chinese market. Firstly, the findings suggest the domestic protectionism during the registration process, which agrees with the domestic support guided by “Made in China 2025” strategy (Hsu 2017; He, Wei & Xie 2008). Besides the intensified local preference policy, the legitimacy pressure also comes from the regulatory aspects to support local manufacturing. In a way, this has accelerated the collaboration needs with local resources. This means not only to establish or collaborate with subsidiaries, but also with other local companies who are aiming to grow their business and accumulate experience with international projects. Based on the earlier literatures about the market entry in China, the entry mode started first from joint venture as the majority. Later, it transited to wholly foreign-owned, while the Chinese market opened to more direct foreign investment (Mohr & Puck 2005, 163; Puck & al. 2009, 388). Market entry strategy is tightly linked with the political and regulatory guidance. In a study by Xing, Liu & Lattemann (2020, 100974A), “collaborative partnership” was proposed in a study about foreign hospitals entering China. Similar approach is proposed based on my research findings, that a collaboration strategy can align with the political trend and the “comprehensive service provider” isomorphic phenomenon seamlessly. This strategy will help in combining the best

strength of local network, channels, market knowledge and the internationalization needs of system X.

## **5.2 Revised theoretical framework**

Based on the data from the primary interview results and secondary data, the study suggests a revised framework that links the three dimensions of internationalization and digitalization together, shown in figure 7. From the general view, three key dimensions have stood out in this study, namely product system X, the industry healthcare industry in China and lastly the customers. Based on our findings, these three dimensions interact and impact on each other, which form a triangle flow chart in both directions. By the side of each circle, there are bullet points listed, indicating the key findings around the corresponding two dimensions. The same applies to the digital impact towards the whole internationalization process, shown at the bottom of the figure.

The bottom circle connects system X to Chinese healthcare industry, representing the process of market entry of a product. In the context of this study, when system X enters the specific industry, healthcare industry in China, a list of formal institutions have been discovered, such as the macro environment of healthcare industry and reforms under the governmental guidance. Domestic protection in the healthcare industry has also been mentioned, indicating the potential obstacles when firms import foreign medical devices into the Chinese market. Several industrial isomorphism may cause pressure for system X to enter the Chinese market. Lastly, as the most critical aspect, the hard requirement to access the market is to align with the local regulatory compliance for medical devices.

Moving towards to upper left corner, customers and the industry are connected, forming the informal institutions. The highlighted aspect here is the relationship and network in China. As discussed in the previous chapter, relationship is very critical in China. Relationship with KOL can impact on how other customers follow the trend. Based on the study, relationship is a personal link, which is deeply rooted in the Chinese culture. Another key finding illustrated in the framework is to invest for future and for a long-term relationship.

On the upper right corner illustrated the circle between customers and the product system X. In the process of customer co-creation, this represents the trend in how a new product can fit the local market needs. Localization, as a key concept during internationalization, is a critical point to align with market demands and fit for purpose. Meanwhile, corporates need to consider the balance of the investment of localization and uniformity of the product line globally.

In a nutshell, the listed bullet points illustrate the key themes that management of company A should take into consideration during the internationalization process of system X to China. This revised theoretical framework clarifies the research focuses of this study and provides a clear view on the relationships among product, industry, customers and digitalization.

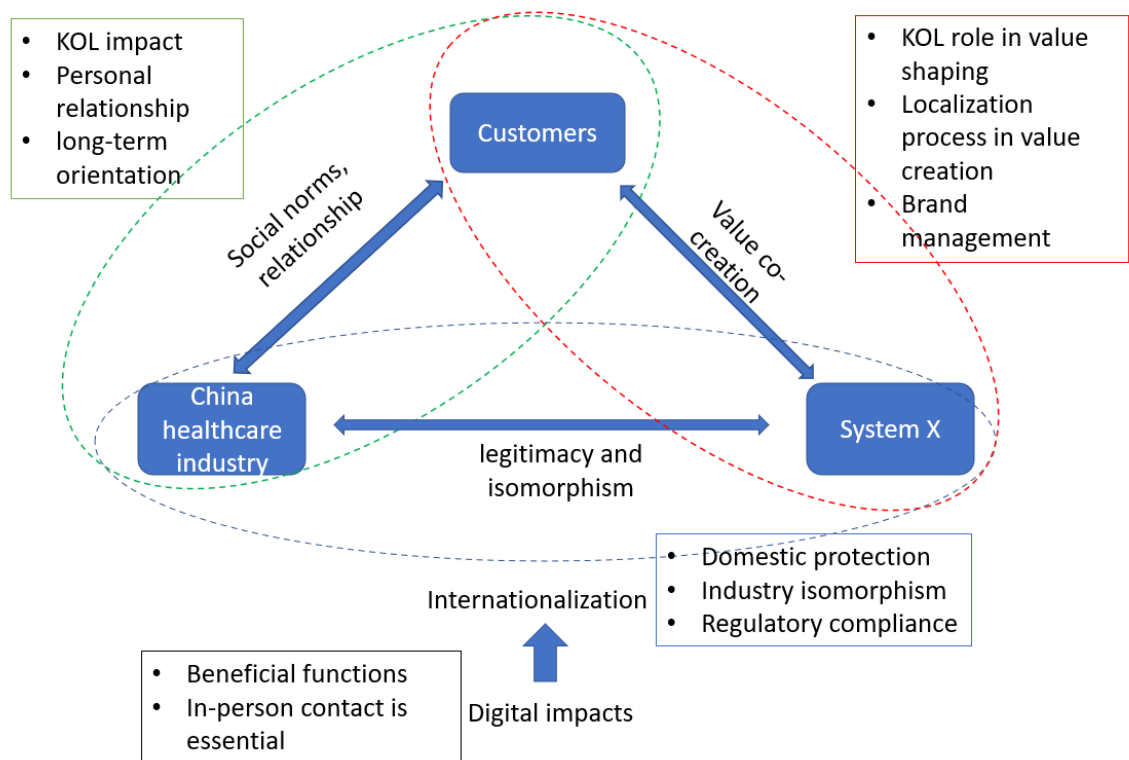


Figure 7. Revised theoretical framework

### 5.3 Conclusion

Appropriate strategies are critical for MNEs to achieve better performance during internationalization process. The outcome of this study contributes to combine the internationalization theory and business practice and presenting the influencing factors to consider when enter Chinese healthcare market. The following aspects are summarized to conclude the findings of this study.

First of all, my study finding highlights the importance of product localization. To realize a successful internationalization of the product, it is critical to define the localization strategy in the market entry plan. Localization of the product means not only finding new value propositions that fit for the market needs, but also create a product development process

which suits for future needs. This development process needs to link the resources from home country and host country tightly. The development effort does not solely come from the home country but can also come through the host country, such as establishing local innovation centers or expert teams. Likely, this will help in shortening the development time needed when the development work is conducted locally. However, prioritization of different requests is critical in this workflow. Additionally, managers need to consider the balance on how to create a strong local presence by localization and maintain the uniformity of the product line globally at the same time.

Secondly, my research finding emphasizes the importance to acknowledge the difference in market characteristics in the host country and explore the potential of customer involvement. In China, most of the clinical laboratories are public-owned, which makes the governmental and political influence even greater. It is necessary to monitor the trend of legislation and regulation updates along the course. Labour work and workforce are less expensive in China due to the high amount of population. Additionally, it is worth highlighting that the regional differences are significant in China. All these differences mean that the key benefits of system X might not apply or stand out for all customers but need to be tailored for different customer groups carefully. For one segment of customers, it is important to provide a wide range of tests. While comparing to another, they might need a system that has high throughput. The key is to find customers' pain point and see how that match with the product's strength. This needs to be addressed while exploring the power of customer involvement through value co-creation process.

Thirdly, managers shall consider how to mitigate the potential foreignness by utilizing available local resources and building a strong partnership. Local resources include a wide range of categories, such as local subsidiary, collaboration partners and distributors. Utilizing the local resources properly can help to bridge the gap in know-how, industrial isomorphism and network. During this process, it is important to emphasize the relationship-building not only with external partners, but also with internal organizations. Aiming for a long-term collaboration can help in making the goals aligned. During the relationship-building and collaboration, it is beneficial to utilized digital methods to come over the difficulties that are caused due to geographical separations. However, we cannot count on digital ways to build strong relationship solely, especially for international projects.

MNEs must acknowledge the challenges that may come along when deciding the go-to-market strategy during market expansion. Even though the foreign subsidiary in host country is already in place, the process might be still both time- and cost-consuming. During

the process, MNEs should also be sensitive about potential changes, be aware of the need from the partner or counter organization about their targets to access to global practice and strengthen the local image. By getting aligned with a same goal and ready to be flexible, the success can be achieved with a common effort.

#### **5.4 My learnings and value contribution**

During this thesis project, I had a deep dive in several research topics, including internationalization and market entry, institutional theory and its application, the role of customers and digitalization in this study. I was able to combine the theoretical knowledge with business context. These contributed positively to my current role in terms of understanding the commercial activity of system X. Additionally, what made this study special was the focus on healthcare industry in China. After reading through the literatures, I obtained a solid understanding in the regulative environment and its impact to the registration of medical devices. Combining my cultural background, many findings from this study strengthened my know-how on the commercial learnings, and also the understanding from social and cultural aspects. Lastly, the thesis study was a very educative project. During this process, I went through different phases of thesis writing and learnt about how to balance work and study at the same time. To sum up, I have had a great learning journey that I am genuinely thankful for!

The study findings were presented in a meeting with my manager, the director of product management for system X. In the meeting, thesis research questions were answered one by one corresponding to the result findings. The conclusions were presented together with the revised framework. Feedback was collected during the meeting and also provided in a written format. My manager confirmed about the high quality of my study work and my ability to analyse the market entry from a helicopter perspective. The contribution of the thesis framework was highlighted by my manager. My study provided a useful and practical framework, which clarified the internationalization process in China and presented good orientation to where to pay attention to in Chinese market entry. Furthermore, this framework acts as a solid foundation for market entry studies to other countries, which will contribute to the global development projects in company A.

#### **5.5 Limitations and suggestions for future studies**

Despite of the contributions to existing studies, this thesis work has some limitations that need to be considered. This study only focuses on the external environment of clinical industry in China. There is very limited mentioning about any internal impact, such as

organization structure of business unit in company A, subsidiary history, company assets, and new market entering strategy of the company. Internal analysis or impact is not included as part of the thesis scope. Furthermore, the market analysis based on secondary data is focused only to healthcare industry, which is relevant for system X. The regulatory environment has quite specific context, which may not apply to other industries and market entry activities. It is worth mentioning that the target organization, company A, is an international corporate with a local office located in Shanghai. This case study discussed the collaboration opportunities with local subsidiaries, which may not apply for small- and middle- sized firms. Noticeably, the interview size was pretty small and limited due to the suitability and availability of participants. The size of the data set is also a limitation of this study.

As for the next step, I would suggest that the internationalisation process can be broadened to a wider scope, with a deeper dive in comparing different market entry modes in China. In this study, different market entry modes were only mentioned, but it was not fully explored about how different corporates choose the specific market entry mode. Additionally, as a continuation study of system X entering China, a competitor analysis and market landscape research is suggested to gain a better understand of the competition and potential market share. This will also provide a good view on how system X should be positioned in the Chinese market and differentiate from the others. With the study on market landscape, it will help in exploring the potential market, estimating the profit, targeting to different customer groups. Lastly, it is worth conducting similar market entry studies for other countries, which are in the market expansion roadmap for system X. The framework proposed in this study could be a good reference for the market entry studies for other countries. This will also help in decreasing the risks when company A positions its product in different foreign market environments and contribute to form the market strategy globally.

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## **Attachments**

### **Appendix 1. Interview questions**

1. What kind of customers have you visited/contacted?
2. What is the difference between customers in clinical setup and research/other environment?
3. What is the industry practice in clinical industry? Social norms, network
4. How would you describe the China clinical industry?
5. How do you see the local culture affecting the activities?
6. What are the digitalized method/platforms for firms to connect with customers?
7. How do other product provide solutions to serve customers?
8. What digital platforms do customers often get the information of a new product?
9. Which way would customers share their experience using an instrument?
10. How has customers' feedback impact on product management/ marketing/ product development?
11. How do you manage a relationship with the customers?
12. How are the value proposition selected for certain products?
13. What kind of international products are you working with?
14. What kind of challenges have you faced working with global products (excluding the organizational affect)?
15. What are the key external environmental factors that you identified for market entry to China, for example regulatory requirement and governmental impact?
16. Are there any factors that company should remember to achieve success on the entry activity to China?
17. Any recommendations for global product enter Chinese market?