



PALGRAVE STUDIES OF
INTERNATIONALIZATION
IN EMERGING MARKETS



Huawei Goes Global

Volume II:
Regional, Geopolitical Perspectives
and Crisis Management

Edited by Wenxian Zhang
Ilan Alon · Christoph Lattemann

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Editors

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From Wenxian Zhang: To Karen, Michelle and Nathan
From Ilan: To Anna, Kareen, Maya and Noa
From Christoph Lattemann: To my parents Sieglind and Hermann

Acknowledgments

The publication of *Huawei Goes Global: Regional, Geopolitical Perspectives and Crisis Management* is the result of the collaborative efforts across the globe. Over fifty scholars with roots in five continents—Asia, America, Africa, Europe and Oceania—contributed to this collective undertaking, to whom we are most grateful for their intellectual contributions. Every research project like this requires enormous support and encouragement. We deeply appreciate the patience and good humor of our families, friends and colleagues. In addition, Ms. Liz Barlow and Mr. Sam Stocker of Palgrave Macmillan, and Dr. Marin Marinov of Aalborg University, who have provided professional guidance and helped us move toward the final publication, also have our sincere gratitude. Finally, we would like to acknowledge the strong administrative support provided to this project by Dean Jennifer Cavanaugh of Rollins College.

Praise for *Huawei Goes Global*

“It is amazing from a librarian’s perspective to learn about the Chinese global enterprise Huawei from this well researched two volumes as written by knowledgeable scholars. In view of the current trade conflicts between the U.S. and China, as well as espionage and cybersecurity concerns pointed at Huawei, this scholarly publication about every aspects of Huawei will be a timely addition to all library collections and be eagerly awaited by their readers.”

—Dr. Hwa-Wei Lee, Retired former Chief of Asian Division, Library of Congress; Dean of Libraries Emeritus, Ohio University

*“The mystery surrounding Huawei is thick: Is it a private company, or is it an extension of the state? Is it a typical or atypical firm in the Chinese political and economic systems? Answering these questions is important for the international business community to understand not only Huawei, but also the Chinese business environment. However, due precisely to the lack of publicly available and verifiable information, studying Huawei remains a daunting task. The effort by Wenxian Zhang, Ilan Alon and Christoph Lattemann to edit the 2-volume book, *Huawei Goes Global: Made in China for the World* greatly contributes to fill the glaring gap and therefore is timely and much welcomed. The book critically examines Huawei’s rise and globalization, providing a valuable source for understanding this important and unique organization and its role in the global trade conflict and restructuring.”*

—Shaomin Li, Eminent Scholar and Professor, Old Dominion University Author of *Bribery and Corruption in Weak Institutional Environments*

“Perhaps no companies are more intriguing and mysterious than Huawei Technologies. It has developed from an unknown telecom company focusing on rural businesses in China to a global technology giant facing tremendous geopolitical uncertainty. Is Huawei similar to any other multinational corporation in developing its competitive advantages? Are existing theories in international business sufficient to explain Huawei’s global footprints and global challenges? Professors Zhang, Alon, and Lattemann have edited two timely volumes of studies written by scholars from political science and business to shed light on these questions. I highly recommend these

books to you. The diverse topics and approaches provide new perspectives much needed to understand international business and politics.”

—Dr. Jing Li, *Associate Professor of International Business, Beedie School of Business, Simon Fraser University*

“Huawei Goes Global is a scholarly two-volume set, in the new Palgrave Studies of Internationalization in Emerging Economies series, which fills an important knowledge gap in the literature on the internationalization of Chinese enterprises in the midst of significant uncertainties. It provides both a specific in-depth view into the most successful Chinese telecommunications firm to come out of the Chinese economic rebirth, Huawei, and a broad-spectrum perspective on how Chinese firms, state-owned or not, internationalize and overcome global challenges. This scholarly effort sets a high standard for a deeper examination and understanding of the inner workings of Chinese global firms. Importantly, it asks and answers the essential question: what can we learn from the Chinese corporate strategy experience. Rarely is this question posed in the growing Western body of literature on Chinese corporate governance. This two-volume set proves an essential research tool not only to scholars, specialized academics, graduate students in various international business programs but also to public policy makers focused on a proper response to the China challenge and global executives.”

—John R Mcintyre, PhD, *Professor of International Management, Founding Director, Georgia Tech Center for International Business Education & Research, Atlanta, Georgia, USA*

“This book offers a comprehensive description of the Chinese rush for innovation supremacy, through the extraordinary case of Huawei. The analysis of the strategic choices, growth paths and the conquered innovation capacity of Huawei, guides the reader in understanding the specificities of the internationalization processes of Chinese companies. It is a must-read book to understand the rush of China towards the 2049 goal of becoming a World leader for Innovation.”

—Dr. Francesca Spigarelli, *Prof. of Applied Economics and Director of China Center at University of Macerata; Vice Rector for European Research Policy and Third Mission; Member of the Chinese Globalization Association*

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1

Introduction

Ilan Alon, Wenxian Zhang, and Christoph Lattemann

Ever since the Trump administration economic war on China, Huawei has been in the news and center stage in the ongoing drama that has evolved between the two great powers, each with its own political and economic philosophies: the USA with a liberal economic and democratic one and China with its more authoritarian and state-centered model of development.

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The drama between the USA and China great power struggle linchpin by Huawei has spilled over to other countries with geopolitical implications. Volume 2 of our series on Huawei explores these geopolitical spill-overs and Huawei-specific strategies to deal with other countries and position its brand as a value adding, contributing part to technological progress and economic prosperity. As such, Part I showcases Huawei in different parts of the world, while Part II discusses the company impacts via varying theoretical lens.

1 Part I: The Regional, Economic, and Geopolitical Perspectives

Part I consists of ten chapters examining Huawei operations in Germany, Russia, Poland, Central and Eastern Europe, Canada, Mexico, Ghana, Tanzania, India, Southeast Asia, and Oceania.

In Chap. 2, Mario Glowik, Berlin School of Economics and Law (Germany), compares Germany and Russia. The Chinese company Huawei has strengthened its global market presence during the last decade in Germany and the Russian Federation, among other countries. Russia recently moved into Huawei's focus as a result of the economic sanctions launched by western countries. Through a comparative analysis, the market entry activities of Huawei in Russia and Germany are introduced and compared with the aim of figuring out the similarities and differences of Huawei's networking efforts in the two countries. Particular attention is paid, through relationship lens, to identify the most important network actors (e.g., telecom providers, industry, and governmental authorities) for Huawei during the course of its international market entry in Germany and the Russian Federation. Research outcomes allow further conclusions for the future in terms of Huawei's positioning in the global high-technology telecommunication industry network.

Chapter 3 by Tatyana Tsukanova, Saint Petersburg State University (Russia), sharpens the focus of Huawei in Russia. Convinced that Chinese companies could have a global influence, Ren Zhengfei, the founder of

the telecommunications company Huawei, chose Russia as the first country for international expansion. In 1997, when its overseas office opened there, Russia was facing an economic crisis. Many domestic companies had slowed down their operations due to political and financial uncertainty. Huawei seized this opportunity and invested in Russia. However, initially it faced severe difficulties in attracting orders. Today, the Russian market is among the key priorities for Huawei. It has 11 offices, R&D and learning centers throughout the country, and is among the top three suppliers of smartphones. How did this company overcome the lack of presence and other difficulties? This chapter examines Huawei's experience in doing business in Russia. In particular, it focuses on the growth strategies that Huawei adopted to facilitate its expansion and examines the challenges it faced in its quest to achieve the leading position in the market.

In Chap. 4, Krzysztof Klinecicz, Laura Zoboli, and Magdalena Marczevska, University of Warsaw (Poland), provide a contrasting example of a neighboring country Poland. The chapter discusses Huawei's presence in Poland using various theoretical lenses, including theories on non-market strategy, internationalization strategies, and the institutions. After presenting the specificity of the Polish market for digital consumer products and communication networks, the chapter depicts Huawei's business activities and market position in Poland, including partnerships with industrial and scientific actors. Subsequently, the chapter offers an overview of legal developments, which are expected to influence the market dynamics. In particular, it considers the balance between security concerns of the Polish regulators and the openness and competitiveness of the market for 5G networks.

Examining more generally Central and Eastern Europe (CEE), in which Poland is a member, in Chap. 5, Agnes Szunomar, Hungarian Academy of Sciences, Joanna Karas, Warsaw School of Economics, and Iulia Monica Oehler-Sincai, Institute for World Economy, Romanian Academy, analyze Huawei's operations in Central and Eastern Europe by focusing on the company's activities in Poland, Hungary, and Romania, as these three countries are among the most important European bases for Huawei in the CEE region. The chapter identifies the most important characteristics of Huawei's operations, how it cooperates with host

country institutions, relates to competitors and how employment relations look like. The authors analyze firm-level data available from desk research and interviews with current and former Huawei managers. The chapter also shows CEE countries' approach towards and engagement with the company before and after the Huawei security scandal. The authors examine how China, Huawei, and its growing presence are perceived by the media in the analyzed countries, by using media content analysis.

In Chap. 6, Hadi Chapardar, William Wei, and Houssam Chamseddine, MacEwan University (Canada), take us to North America, which is where some of the strongest global confrontations the company experienced. Scholars of business have long studied how government politics, as one group of exogenous macro-level factors, can influence cross-border firm strategies. This chapter investigates Huawei's business in the USA and its close ally, Canada. Adopting a case-study approach, the authors review the disruption of Huawei's business in the USA and how this country's growing pressures, epitomized by the arrest of the company's chief financial officer (CFO) in Vancouver, impacted Huawei's strategy in Canada. In contrast to what the conventional wisdom may suggest, the arrest did not lead to a defensive strategy by Huawei and the company aggressively preserved its business in Canada. Adopting the perspectives of strategic resources and non-market capabilities, the authors discuss business-politics dynamics of multinationals from developing countries in sensitive industries such as IT.

Traveling just south of the USA, in Chap. 7, Jorge Carrillo and Jordy Micheli, Profesor-Investigador, Departamento de Estudios Sociales, El Colegio de la Frontera Norte, analyzed Huawei in Mexico. The presence of Huawei in Mexico is significant. Its growth strategy has been aggressive: it has built assembly and logistics capacities for the region, R&D activities, a global call center and important participation in the shared network. Notwithstanding the foregoing, the growth and upgrading trajectory of Huawei Mexico is at a crossroads due to pressure from the Trump administration. The Huawei's expectations of greater growth in Mexico seem to have been left behind, which has resulted in its new strategy. For instance, it has positioned its branch of devices in Mexico with a new subsidiary. Starting from the analytical perspective on the new

innovative multinationals that should be reactive in changing national contexts, this chapter shows the organizational evolution of Huawei and points out the dilemmas of its future strategy.

Examining the global south in Chap. 8, Kwame Ohene Djan and Wilberforce Owusu-Ansah, School of Business, Kwame Nkrumah University of Science and Technology (Ghana), assess the African context of Ghana. This chapter provides an empirically grounded assessment of Huawei's contribution to the Ghana's ICT infrastructure and evaluates the performance of the Huawei brand on the Ghana's mobile phone market. Analysis of field data suggests that, by far, Huawei is the largest foreign IT company with significant investments in the total Ghana's IT infrastructure managing and controlling the nation's central datacenter. Within the mobile telephone market, Huawei phones are considered to be of high quality with its unique performance features. On the other hand, customers and potential customers of Huawei mobile phones consider its prices comparatively higher. Relevant stakeholders tend to deny fears of any negative consequences of the recent US sanctions against Huawei as far as the latter's operations in Ghana is concerned.

Chapter 9, by Serina Al Haddad and Sheryll Namingit, Rollins College (USA), analyzes another part of the global south, Southeast Asia. This chapter discusses Huawei's carrier business in Southeast Asia, focusing on 5G roll-out in the region. It covers the extent of business relationships between the telecommunication companies and Huawei, as well as the role that Huawei has played in the development of existing infrastructure. This chapter also attempts to study the probable direction of the infrastructure development in Southeast Asia and how US policies, territorial issues, and other factors affect Huawei's future business in the region. To provide a comprehensive picture of Huawei's carrier business in Southeast Asia, this chapter also discusses Huawei's supply chain management in the region.

As a dominant player in South Asia, the case of India is particularly interesting and is the subject of Chap. 10 by Deepraj Mukherjee, Associate Professor of Economics, Kent State University (USA). Huawei is not yet a major player in India's competitive smartphone market. The company has a low-end brand, called the "Honor" brand in India, and it expects that the Indian smartphone market will use Huawei brand for high-end

devices. Both brands had a combined market share of 3.4% in 2018. Huawei, by the end of 2018, has chartered out a three-year plan for the Indian market through its dual-brand strategy, backed by investments of over \$100 million starting from 2019 with an expansion of local manufacturing activities. Will this global telecom giant become a major player in India? The current chapter explores the issue in light of the Sino-India relationship and the alleged security issues related to Huawei.

In the final chapter of Part I, Jake Lin, Universität Bielefeld (Germany), examines the case of Oceania. Oceania has long been a pioneering overseas market for Huawei. Huawei became an active provider, or even strategic partner, of telecommunication network in Australia, New Zealand, and the South Pacific nations since early 2000s. However, this honeymoon period took a dramatic turn in 2018 as Huawei's business model is under critical scrutiny. This chapter seeks to examine Huawei's strategic engagement in Oceania in the past decade and the rationale behind its recent difficult situations in Oceania. It takes an inter-subjective approach by looking at both Huawei's strategy and practice and local partners' interpretations of and responses to Huawei's engagement. It argues that the underlying cause of Huawei's current difficulty in the region is the fundamental incongruity of values between Huawei and the West, intensified by geopolitical competition. While there is no easy way to resolve the structural problem of great power rivalry in the long term, this chapter suggests Huawei adopt some short and mid-term tactics to mitigate the risk of getting trapped in geopolitical conflict. No precedent exists that a consumer product enterprise from a Leninist authoritarian state could ascend to a global player. This chapter provides a useful case about the challenge of Huawei's global engagement in the new era of great power competition.

Countries under the US sphere of influence, and those rivaling nations, such as India, have selectively arrested the development of Huawei. Others have welcomed the investment, technological contribution, and good will that came with its arrival. Russia is a case in point. Managing geopolitical risk will be paramount for the firm's future development.

2 Part II: Huawei's Crisis Management and Corporate Communication

Part II, while much shorter, consisting of four chapters, focuses narrowly on the company reaction to the crisis particularly vis-à-vis the USA.

In Chap. 12, Lei Li, Nottingham University Business School (China) and *Sunny Li Sun*, University of Massachusetts Lowell (USA), consider the role of legitimacy in government and media relations. Despite its phenomenal success in China and beyond, Huawei has encountered serious and prolonged legitimization challenges in some prominent Western countries. The authors explore a cross-border stakeholder engagement perspective and elaborate that Huawei has had trouble coping with the governments and media in developed Western countries due to its stakeholder engagement deficiencies and local negative national stereotyping it faces. The chapter discusses some possible adaptation approaches such as negotiation and defensive strategies and concludes with scholarly and managerial implications.

In Chap. 13, William Chongyang Zhou and Sunny Li Sun, University of Massachusetts Lowell (USA), take the approach of organization learning, rather than stakeholder management, and elaborate on the Huawei concept of Red Team. Red team refers to an imaginary enemy within an organization. With the “winter-is-coming” consciousness, Huawei established its Red Team in the 1990s. The Red Team of Huawei analyzes and imitates its major competitors. It also helps Huawei in learning from its industry peers and ensures Huawei operating robustly against a disturbing external environment. This chapter uses three examples to explain the functions and importance of red teaming strategy in Huawei and discusses how Huawei implements red teaming strategy to promote organizational learning and resilience through the lens of ambidexterity and paradox management.

Chapter 14, by Kenneth C. C. Yang, University of Texas at El Paso (USA), and Yowei Kang, National Taiwan Ocean University (Taiwan), frames the problem of Huawei through media analysis. Huawei, a major Chinese player in 5G mobile communication infrastructure and equipment, has caused many national security concerns among the Western

countries. Using a computational framing approach, this study aims to examine how global news organizations frame Huawei. This study depends on a media corpus of 1527 articles from Nexis UNI (previously Lexis/Nexis Academic) database after using “Huawei” and “national security” as the keyword pair. Prominent key phrases include “national security” “security concerns,” “security threat,” and “security fears” among non-Chinese media, while Chinese media focus on “trade war,” “Donald Trump,” and (the arrest) of Huawei’s CFO, “Meng Wanzhou.” Linear regression analyses also confirmed the positive relationship between a country’s animosity against China with how Huawei will be framed by news organizations. Increased animosity perceptions against China are found to be positively associated with more likely to frame Huawei with national security and security fear concerns.

Chapter 15, by Matthias Niedenführ, China Centrum Tübingen, Universität Tübingen (Germany), focuses narrowly on Huawei’s leader Ren Zhengfei. Chapter 16 outlines how Ren Zhengfei, the enigmatic founder of Huawei, is represented in and outside China. Drawing on Chinese sources, such as biographies, media articles, and statements from Chinese entrepreneurs communicating through exclusive WeChat groups usually inaccessible to outside observers, Niedenführ finds that Ren appears in domestic discourse as a model entrepreneur and champion of Confucian values. Ren’s personal history and struggles in establishing and developing Huawei evoke sympathy from both the general public and his entrepreneur peers, who see his success as evidence of diligence and resilience. This contrasts starkly with Western media portrayals which rarely include discussion of Ren as a person, instead depicting him and his company as little more than constructions and agents of the Chinese state.

Collectively, the chapters contribute to our global understanding of Huawei, the challenges it faces, in addition to theories and analytical tools we can use to understand and analyze Huawei’s impact. In the final chapter of the book, we summarize some of the key learnings and suggest policy and research avenues of research.

Part I

**The Regional, Economic, and
Geopolitical Perspectives**



2

Market Entry Strategies of Huawei in Germany and the Russian Federation from a Network Theory Perspective

Mario Glowik

1 Introduction

China's accession to the World Trade Organization (WTO) in December 2001 paved the way for its economic rise and contributed significantly to increasing world trade. In 2009, China took over the position of a world export champion, followed by the United States, Germany, and Japan (Glowik 2017). In the course of this development and similar to various other Chinese firms, Huawei strengthened its global market presence during the last decade in Germany and the Russian Federation, among other countries (Xie and Li 2016; Éltető and Szunomár 2016; Zhang et al. 2012). Russia recently moved into Huawei's focus as a result of the economic sanctions launched by the United States of America and the European Union in 2014 (Calvert 2019).

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In this chapter, the main network target actors of Huawei in Russia and Germany are introduced and compared, aiming to figure out similarities and differences of Huawei's network building efforts in the two countries. I aim, through a relationship perspective, to identify relevant business network actors (e.g., telecom provider, industry, and governmental representatives) for Huawei during the course of its international market entry in Germany and the Russian Federation (Kothari et al. 2013). Germany and the Russian Federation have been selected for this chapter because both countries serve as important target markets for Huawei. At the same time, Germany and Russia represent countries with different political attitudes toward China and also countries with different strategic significance for China as a trade and business partner (Huawei 2018b; Di Minin et al. 2012; Hanemann and Huotari 2015). The data obtained for this article are gathered through conventional qualitative research methods such as secondary data analysis from annual reports, industry surveys, independent research institutes, and press releases (Yin 2014). Research outcomes allow further conclusions for the future in terms of Huawei's positioning in the Russian and German telecommunication and digital-driven industry networks. This chapter contributes to the emerging literature related to the expansion of Chinese high-technology electronics firms (Zhang et al. 2014; Luo and Lemański 2016; Tung and Wan 2013).

2 Why a Relationship Perspective?

Current literature provides abundant evidence for relationship-building activities by western firms in course of their market entry strategies in China, often against the background of the importance of socio-cultural *Guanxi* networks (Davies et al. 2003; Lee et al. 2012; Pan and Li 1998). In comparison, research on international business relationship building by Chinese and Taiwanese firms in their foreign target countries, although recently increasing, is still comparatively less represented (Andersson et al. 2018; Hertenstein et al. 2015). This chapter contribution targets to contribute filling the above-mentioned research gap through the case of Huawei.

For the past couple of years, China has sought to develop its economy toward innovative and ecologically sustainable technologies and away from export-oriented mass manufacturing outputs (Chen 2005; Qiao et al. 2014). The Chinese government supports local firms in the field of high-technology electronics, such as those producing integrated circuit chips, mobile communications, telecommunication components, displays, digitally controlled machine tools, robotics, and batteries (Blanchard 2008; Cai 2012). The main reasons for this institutional favoritism of the Chinese government are manifested in the “China Manufacturing 2025” directive that seek gaining truly innovative technology knowledge (which is China’s current Achilles heel) and to build up a corresponding global industry network architecture where Chinese firms should occupy crucial business network nodes (European Union 2017; Zhu and Zhu 2016; Yang and He 2017).

Johanson and Mattsson (1985, 1988) represent first scholars in the international business literature who focused attention on network dynamics related to the internationalization processes of the firm’s business. Firms are embedded in industrial networks and linked to each other through relationships that develop complex inter-firm information and knowledge exchange channels. Consequently, the industry network is composed of network actors engaged in research and development, supply, manufacturing, marketing, and distribution. This system is described as a network of relationships among firms (Johanson and Mattsson 1988; Glowik 2016). Transferred to this book chapter, I aim to describe, through network lens, whether and how relationships help Huawei’s management realize and implement its market entry strategy in the Russian Federation and Germany. By developing relationships with local stakeholders, such as telecom firms, administrative authorities, suppliers, and customers, Huawei has increased its regional resource commitments aiming to gain a favorable local market positioning. Business networking has grown in importance as firms such as Huawei have become more concerned with the proper balance between competition in the foreign market and cooperation with other stakeholders in these targets markets in order to successfully realize their market entry (Jaklič 1998; Anderson et al. 1994). Johanson and Vahlne (2009) claim that a firm’s foreign business environment is made up primarily of networks. Therefore, Huawei’s

network embeddedness has important implications for the firm management's ways of thinking and developing commitment in bilateral relationships as well as identifying and exploiting opportunities in foreign target markets such as Germany and the Russian Federation (Glowik and Bruhs 2014; Håkansson and Johanson 2001).

Firms learn and gain market as well as industry knowledge and experience through their relationship development (Lindstrand et al. 2009). As a result, the business network indicates a broader web of connected relationships operating as a knowledge-sharing system among the involved actors (Vahlne and Bhatti 2019). Relationship learning serves as a promising method to accelerate international market entry activities, particularly for Chinese firms such as Huawei, which is an international market latecomer compared to its competitors, for example, from South Korea and Japan (Mathews 2006).

The network by its nature serves as an extended knowledge base. Knowledge of relevant actors is transmitted within the network (Johanson and Vahlne 2009). Such privileged knowledge is by no means public but is instead confined to the parties involved. Market knowledge is dependent on understanding interrelated mechanisms about and commitment to identified opportunity. Identified opportunity exploitation enables the incremental internationalization process through relationship interaction (Johanson and Vahlne 2006; Vahlne and Johanson 2017).

As a result, a firm like Huawei is able to reduce its perceived market uncertainty by using its relationship engagements in the Russian and German telecommunication industry networks. Accumulated international experience and the imitation of best-practice firms that are a part of the German and Russian network serve as knowledge safeguards and reduce the degree of business uncertainty for Huawei's management (Maekelburger et al. 2012). In addition, foreign partner relationships facilitate localized product and service developments of Huawei. The degree of network relationships, which have a fundamental impact on the perceived degree of uncertainty, therefore, influence the market expansion of Huawei, including the choice and mode of relationships (Coviello and Munro 1997; Alcácer et al. 2016).

Following the idea of the network concept, preparedness for, and the successful implementation of, international market entry strategies is

largely a matter of having relationships of Huawei with other firms and institutions embedded in the Russian and German business networks (Håkansson et al. 2009). Huawei's internationalization is a process of increasing involvement in international operations, which results in an accumulation of knowledge about markets and institutions (Ellis 2000; Welch and Luostarinen 1988). Consequently, modern internationalization processes are particularly characterized as a course of learning through network relationships (Sharma and Blomstermo 2003; Glowik 2016). As a result, Huawei's international expansion is to an important extent dependent on its position in the telecommunication and information technology (IT) industry networks in Russia and Germany.

3 Huawei in Germany

Major technological developments for Huawei have linkages to Germany. In 2003, Huawei and Siemens established a joint venture to develop the Chinese 3G mobile communications standard (TD-SCDMA). The German-Chinese joint venture serves as a major milestone for Huawei's market entry not only in Germany but worldwide (Anders and Fool 2019). Huawei considerably benefited from its research and development relationships to the Munich-based division of Siemens. Since 2014, Huawei has been running its German research center in Munich, which also serves as the headquarters for its European research activities (Anders and Fool 2019). Today, for example, in its Munich laboratories, Huawei concentrates its research on high-technology areas, such as 5G networks, optical networks, virtual reality, and cloud data storage (Jiang 2016).

Huawei's technology is present in all three leading German mobile networks; Deutsche Telekom, Vodafone Deutschland, and Telefónica Deutschland work together with the Chinese firm (Manager_Magazin 2019; Tenzer 2019). In other words, Huawei has established bilateral business relationships to all major German telecom providers which serve as distribution channels for the Chinese firm's products. With the current 4G mobile communications standard, the Chinese indicate the largest supplier of antennas and base stations, a core component of every radio cell, in Germany. There are currently more than 120,000 mobile base

stations running in Germany. Deutsche Telekom set up the first 5G masts in Berlin in the spring of 2018, of course, delivered by Huawei. With more than 30 percent (2019), Deutsche Telekom is the undisputed market leader in the German telecommunication industry, since decades (Tenzer 2019). Because of the partnership between Deutsche Telekom and Huawei, most of the internet modems by Deutsche Telekom usually sold at premium price levels have Huawei technology inside the modem device. As a result, Huawei reaches around 28 percent of market share in the German telecommunication network market (Manager_Magazin 2019). In 2018, Huawei became the market leader in the telecom network infrastructure component sales followed by Nokia (20 percent) and Ericsson (15 percent) in Germany (AFP 2019). Comparatively, in smartphone device sales, Huawei is ranked only third (market share of 21 percent) but ahead of Nokia (5 percent). Samsung (34 percent) and Apple (28 percent) led the smartphone device market in Germany in 2018 and 2019 (AFP 2019).

Empirical research delivers evidence, that, meanwhile, Huawei holds a valuable insidership positioning as a major product and telecom infrastructure supplier not only for the German telecom business but also for the entire German information technology (IT) infrastructure. It would be neither easy to cut these intense business relationships on short notice because of product supply and service maintenance dependence on Huawei, nor to find a supplier alternative for the German telecoms. Huawei's most severe competitors in Germany, Nokia and Ericsson are currently comparatively less financial powerful and technologically behind.

In the mobile network of Deutsche Bahn (German railroad), Chinese hardware is also present. Deutsche Bahn, together with Siemens and Huawei, renewed the large communication network of Deutsche Bahn during recent years (Keller and Heyser 2019).

In 2018, Huawei and Audi (a car brand which belongs to the Volkswagen AG) announced joint plans for the intelligent connected vehicles (ICV), targeting fully autonomous driving. The agreement indicates another result of Huawei's efforts at developing bilateral relationships not only with telecom providers and the Deutsche Bahn but also to

German automakers (one of Germany's most important industries) in the area of autonomous driving (Huawei 2018a).

Additionally in 2018, Huawei and the administration of the city of Duisburg signed a contract specifying that Huawei is appointed to develop Duisburg into a “smart city” (Schulz 2018). According to the project plan, Huawei serves as a consultant and technology supplier of its 5G technology, and develops digital monitoring authorities, and builds up energy-saving city-lightning systems as well as an autonomous traffic infrastructure in Duisburg.

We are Germany's China city. There are signs that the city's importance will keep growing. We could become China's gateway to Europe—and vice versa. Sören Link, Duisburg's Social Democrat mayor. (Oltermann 2018)

While Huawei is enthusiastically welcomed by the ruling social democrats in Duisburg, critics have arisen in terms of privacy and data collection sources since Huawei is able to monitor and control major digital communication channels of public administration in Duisburg (Schulz 2018). One major stream of critics is originated at the German intelligence Bundesnachrichtendienst (BND) claiming that the 5G technology, when installed by Huawei, comes along with the risk of potential data leaks. According to the BND, Chinese firms have to cooperate intensively with the Chinese government due to its government planned economy system. Additionally, in recent years, the BND has noticed increasing data hacking attempts in Germany, of which some of them are originated in China (Bubrowski 2019).

Ruling politician makers of the city of Duisburg and its surrounding area, which is known from the past for its steel industry, which however lost importance, therefore the region became rather poor compared to other areas in Germany, seek to develop Duisburg becoming Europe's central logistics train hub for products, made in China (Gray and Schlautmann 2018). Around 80 percent of trains from China to Europe, which equals around 30 trains a week, arrive in Duisburg. The city has become a part of the “one belt, one road project,” initiated and financially supported by the Chinese government (Oltermann 2018). Most of the trains arriving in Duisburg take the route through Kazakhstan and

Moscow (Gray and Schlautmann 2018). Thus, the combination of Duisburg serving as a Chinese logistics center in Europe with Huawei's digital city infrastructure controlling and monitoring technology indicate promising business areas for Huawei in the future.

The city of Duisburg is not the only public-administrative cooperation partner for Huawei. Already in 2015, Huawei signed a contract with the German Federal State of Bavaria. "Huawei has been innovating and contributing greatly in areas such as communications and Industry 4.0. The company is also an excellent partner for Bavaria," remarked Ilse Aigner, former Deputy Minister-President of Bavaria and Bavarian Minister for Economic Affairs (Huawei 2015). In return, Mr. Ding, Huawei's Executive Director and President of Products & Solutions, replied:

Huawei greatly appreciates the strong innovation and investment environment in Bavaria. We are dedicated to building partnerships with local industry players and hope that this visit will increase cooperation between the two parties. We will then contribute more to building Bavaria's digital economy. (Huawei 2015)

Huawei's German Research Center, which operates nine subsidiaries in six European countries is responsible for advanced technology research, design, and strategic technology planning (HiPEAC 2020). They have also initiated collaborations with universities and research institutes, including the Technical University (TU) Munich and SAP (Huawei 2015).

One of the very recent newly established partnerships between Huawei and a German city administration is with Gelsenkirchen in 2019 which recently has become a part of Huawei's business network in Germany. According to the agreement, Huawei designs the information technology infrastructure and supplies components for the development of a so-called smart city platform aiming to provide government services based on advanced information technologies to citizens, tourists, and business actors in the German city of Gelsenkirchen (Digital_Science_Challenge 2019).

Empirical research delivers evidence that Huawei has built up a fine-grained network architecture in Germany, which includes universities and technology partners such as Technical University Munich, Siemens

and SAP, private firms and product distributors (Deutsche Telekom, Vodafone, Telefónica, Audi) as well as political and public authorities such as the Federal State of Bavaria, and cities of Duisburg and Gelsenkirchen (compare Fig. 2.1). The mass media effective announcement, together with German administrative representatives, of developing smart cities in Duisburg and Gelsenkirchen differentiates Huawei from its main telecommunication network competitors Nokia (Finland) and Ericsson (Sweden) which do not have similar intentions. Usually, Chinese firms are “less visible” in the media in course of their market entry and penetration in Germany.

On the other side, Huawei’s presence in the German media has caused that the emerging influence of Huawei to the German digital infrastructure is controversially discussed among politicians and even among the government, particularly in light of the new 5G standard. Chancellor Dr. Angela Merkel, for example, argues that business relationships with Huawei should be continued because 5G will offer new opportunities to gain competitive advantages for the German export-dependent industries. Moreover, there are concerns that an outright ban on Huawei could invite retaliation against German companies such as Volkswagen, BMW and Siemens in China, which is Germany’s largest trading partner country (Chazan 2019). On the other hand, critics among various members

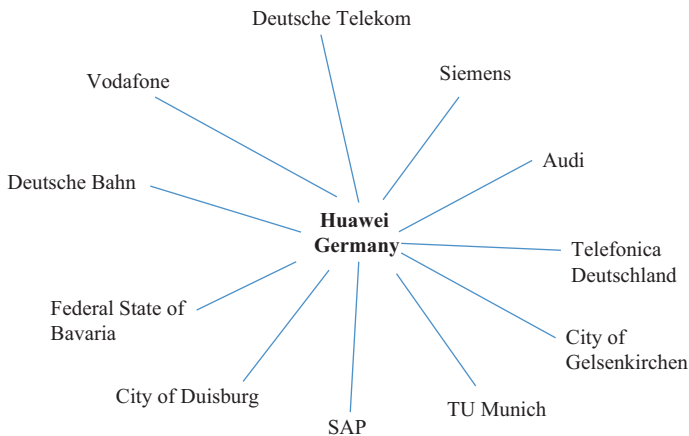


Fig. 2.1 Relationship network of Huawei in Germany [status December 2019]

of the ruling German coalition of Christian Democrats and the Social Democrats as well as the chief of Germany intelligence service BND claim that it is hard to develop trustful relationships with Huawei which is known for its intense relationships to the Communist Party and the country's intelligence apparatus in China (Donahue 2019). Developments harming human rights as witnessed in Xinjiang (Uighurs), Tibet, and political tensions in Hong Kong currently foster critical voices and contribute to a rather negative country image perception of China in Germany.

Critics in Germany receive support by the current US administration which lobbies to ban Huawei from public and private tenders due to data security reasons. As a consequence, the Chinese Chamber of Commerce in Germany threatened that any ban on Huawei that was "purely politically motivated" and "a result of foreign pressure" would have "an extremely negative effect on future economic co-operation between Germany and China" (Chazan 2019).

Potential winners from banning Huawei 5G technology in Germany are Nokia and Ericsson. At the moment Huawei is technologically ahead but Nokia and Ericsson are trying hard to fill the current competitive gap. Sweden and Finland together with Germany are member of the European Union and, thus, share common sociopolitical, economic, and legal standards. In addition, Sweden and Finland traditionally maintain close bilateral relationships to Germany and thus make use of a reputational advantage against Huawei from China. Another reason of favoring Nokia and Ericsson is the fact that China and Russia intensify their bilateral relationships against the background of current western economic sanctions. Within those intense Russian-Chinese governmental relationships targeting the Russian telecommunication eco-system, Huawei plays an outstanding role as described in more details in the following section.

4 Huawei in the Russian Federation

Huawei has been present in the Russian Federation since 1997 (Tadviser 2019b). The early entrance in Russia provided the basis for Huawei to study institutional frameworks and market surroundings and to start

relationship-building initiatives with local decision makers. Huawei strengthened its local business through the “Umberto Konzern Russia,” with whom Huawei formed a joint venture named Beto-Huawei. Beto-Huawei was positioned as a high-quality mobile network builder, winning both market share and reputation by offering lower prices than its competitors in Russia (Jiang 2016). Since its market entry in Russia, Huawei’s relationship-building activities rather developed marginally. This has changed considerably in 2014 which represents the year with the most newly established bilateral firm relationships of Huawei in Russia so far. In that year, in response to the incorporation of the Autonomous Republic of Crimea into the Russian Federation, the United States of America as well as the European Union imposed sanctions, which also has affected, among other things, the telecommunication industry and corresponding western firms doing business in Russia (Bafa 2014).

Chinese companies such as Huawei successfully managed to fill the gap left by western firms. Huawei agreed to a partnership with Russian Railways, serving them with the development and implementation of projects such as the modernization and building of wireless networks for professional technological communications using the GSM-standard broadband radio communications and audio and video conferencing systems (Russian Railways 2014).

In 2014, MegaFon, the second-largest telecommunications operator in Russia, over a seven-year contract period, acquired about USD 600 million of equipment and maintenance services from Huawei. The purchase covered components and devices for the construction and modernization of telecommunication networks as well as software and maintenance in Russia. Huawei was already one of the largest suppliers to MegaFon, having helped upgrade its 3G equipment and supported the Eurasia intercontinental high-speed network (Thomas 2014). In 2014, Huawei signed an agreement with Sberbank for the purchase of information technology equipment from Huawei (Software_Russia 2014).

In 2016, Huawei Marine and Rostelecom started the construction of a submarine fiber optical telecommunication line (SFOTL) connecting Kamchatka and Sakhalin. The construction of this 900-kilometer submarine cable is part of the “Far East Cable System” that connects the regions of Kamchatka, Sakhalin, and Magadan (Huawei 2016). Huawei Marine

Networks Co. Limited (Huawei Marine) is a joint venture established in 2009 by Huawei Technologies Co. Ltd. and Global Marine Systems Limited (United Kingdom). Huawei Marine delivers submarine cable systems that incorporate system design, integration, and installation services as well as maintenance support for network operators (Huawei_Marine 2019). Meanwhile, Huawei Marine has developed and deployed numerous submarine cable projects throughout the world, including the Middle East, Africa, Asia, and South America (Huawei 2016). Building and maintaining telecommunication cable connections indicate a promising business because of data security requirements. Therefore, the joint venture Huawei Marine holds a strategically valuable (in-house) supplier function for the Huawei telecommunication network division. In 2016, Huawei signed further agreements with the Russian firm Diasoft, one of the largest information technology solution providers in the Russian financial industry, and with Moscow State University with the aim of developing a research collaboration (Tass 2016; Changcheng 2019).

In 2017, Huawei established a collaboration with the Russian telecommunication firm Rostelecom for deploying high-quality Wi-Fi networks in Moscow.

Digital transformation is accelerating WLAN coverage in city hotspots. Huawei will partner with Rostelecom to deliver optimal network experience, contributing to B2B business success,

said Wang Shihong, Vice President of Huawei Switch and Enterprise Gateway Product Line (ETTelecom.com 2017). Huawei has become the exclusive supplier to Rostelecom for its central branch.

In light of the economic sanctions launched by western countries, Russia increasingly welcomes investments from Chinese companies in the information and communications technology (ICT) sector, which is in line with the government's ambition of building a digital society. Following this development, Huawei Russia is considering opening a new research and development (R&D) center in Russia (location is not decided), which would be the third in the country after the Moscow and St. Petersburg R&D centers.

We value long-term development in overseas markets not only in terms of providing products and services but also in cooperation with local small start-up companies as well as contributions to locally based research and education programs,

said Huawei's Vice President Amy Lin, noting that with more than 20 years of operations in Russia, Huawei considers itself a "local company" (Qingqing 2018).

Despite current economic sanctions, the Finnish company Nokia signed a contract to develop 5G equipment with the Russian cellphone company MegaFon in 2018. In 2019, the Russian state telephone company, Rostelecom, agreed to build a testing area for high-speed wireless internet in Moscow, using equipment from the Swedish Ericsson. At the moment, it is not clear whether Russia will have a national 5G network, using Chinese or western equipment, as the Russian military has so far declined to free up the necessary radio frequencies (Kramer 2019). Nevertheless, research delivers evidence that not only Huawei but also EU telecommunication providers namely Nokia and Ericsson aim to develop their business networks in Russia.

Having above mentioned in mind, it does not surprise that very recently, Huawei has accelerated its activities in terms of developing the cloud business in Russia. The Chinese company currently operates in three major data centers in Moscow but plans to move into facilities in Sankt Petersburg and Yekaterinburg. The three data centers are all owned by the Russian companies 3Data, IXcellerate, and DataPro. Huawei is looking to localize its data services to comply with Russian data sovereignty laws as it launches its contactless payment service in the country (Calvert 2019). In 2019, Huawei signed a contract with the Russian telecom operator Tele2 to cooperate on the development of 5G standards. Tele2 maintains business relationships with Ericsson and Rostelcom concerning 5G network development in the Moscow region (Tadviser 2019a).

During the last Sankt Petersburg International Economic Forum, Huawei and the Russian Presidential Academy of National Economy and Public Administration (RANEPA), one of Russia's leading universities regarding politics, security, and administration, signed a memorandum

of understanding that targets the joint development of educational programs (Ranepa 2019).

There is no doubt Huawei has been penetrating the Russian market in light of western economic sanctions through intense relationship building to various actors such as telecom providers, software and digital data storage firms, universities and Russian Railways (compare Fig. 2.2). As a result of Huawei's relationship-building activities, Huawei has become the most popular smartphone brand in Russia, together with Apple and Samsung (Pan 2018).

For the first time Huawei gained the market leader positioning capturing 28 percent market share during fourth quarter 2018 which equals 91 percent year-on-year growth. Overall in 2018, Samsung was the market leader with a 28 percent market share followed by Huawei (24 percent) and Apple (11 percent). The reason behind Huawei's growth was its balanced business network portfolio and its aggressive marketing in both

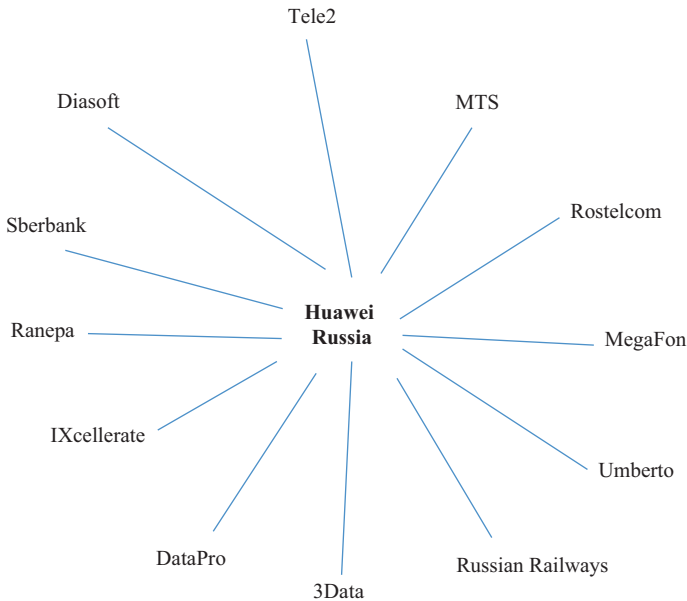


Fig. 2.2 Relationship network of Huawei in the Russian Federation [status December 2019]

online and offline channels (Kumar 2019). Opposite to Germany, Nokia does not play a role in the Russian smart phone device market.

Assisted by the Chinese government, Huawei seeks to fill the gap left by western competitors in the field of telecommunication network development and component supply manufacturing. In June 2019, Huawei Russia announced that the Chinese firm would help build its new high-speed wireless network on Russian territory—known as 5G—as this has been fixed in a contract between Huawei and the Russian mobile phone carrier Mobile Tele Systems (MTS). The contract was signed during a three-day visit by Chinese President Xi Jinping in Sankt Petersburg. The 5G technology will boost various kinds of digital devices, especially those that are part of the so-called Internet of Things (Kramer 2019).

American authorities claim that relying on Huawei equipment would open a window to possible Chinese surveillance of everyday life, with technical breaches possible. Despite a history of vigilance about foreign spying with multiple laws intended to protect data, the Kremlin highlighted the agreement between Huawei and MTS, one of the three largest cellphone operators in Russia. The Kremlin noted that several business deals were signed in a ceremony attended by President Vladimir V. Putin and President Xi Jinping in June 2019 in Russia (Kramer 2019).

Huawei's major competitors in Russia—Nokia and Ericsson—are active but face some significant drawbacks in light of current sanctions in the Russian market. Huawei, like many other Chinese firms, is filling to a considerable extent the gap in products and services left by western firms.

5 Conclusion

Huawei entered Russia and Germany at the end of the 1990s. Over the years, Huawei has developed a fine-grained relationship grid involving private firms, governmental authorities, policy makers, research institutes, and universities in Germany and the Russian Federation. In Germany, the relationship building activities of Huawei have remained relatively stable over all the years. In Russia, Huawei has considerably

intensified its relationship activities to local actors since 2014 in light of the US and EU embargos.

This sub-chapter contributes to the network theory because it sheds light on Huawei's preferred business network actors and how these relationships developed since the end of the 1990s until today.

First, during earlier stages of its international market entry in Germany, Huawei focused its bilateral relationships on research and development gaining technological knowledge (e.g., cooperation with Siemens). During the last decade, Huawei has strengthened its efforts on developing its distribution channels and building up an "eco-system" around Huawei's products and services (e.g., urban city administration, universities, and private firms). In comparison, Russia has mainly served as a sales channel for Huawei products. Very recently, Huawei has established bilateral relationship ties to Russian universities (e.g., RANEPa in Sankt Petersburg).

Second, today, in Russia as well as in Germany, through a broad range of agreements signed with locally leading telecommunication service providers, Huawei sells key electronics and telecommunication components as well as project planning and maintenance services. Additionally, Huawei recently has addressed more complex projects such as city infrastructure digitalization including information technology networks, traffic monitoring and energy saving solutions, for example, in Duisburg and Gelsenkirchen in Germany; which is not the case, so far, for Russia. Interestingly, both German cities are located geographically in Western Europe at the end of the "one belt, one road initiative." Research delivers evidence that Huawei intensively cooperates with local railway companies in Germany and the Russian Federation. Railway logistics play a major role in the "one belt, one road" trading and transportation system.

Huawei understands well the different administrative-political systems in Russia and Germany and fine-tunes its relationship building activities accordingly. In Germany, with its federal state system, Huawei connects with cities, communities, and local governments (e.g., Bavaria). Russia is known for having its central power located at the Kremlin in Moscow. Therefore, Huawei, through its privileged lobbying power to top Chinese government representatives, realizes benefits from the Russian-Chinese

strategic partnership which has become stronger than ever under the geopolitical circumstances after 2014.

However, against the background of complex 5G infrastructure projects, there is an emerging controversial discussion among politicians in Germany. There is a group, currently supported by Chancellor Dr. Angela Merkel, who favors to continue the cooperation with Huawei, because of its technological leadership positioning and the importance for the Chinese-German trade relationships (Chazan 2019). On the other hand, there are critical voices such as of the German intelligence service BND which prefer to ban Huawei from 5G tenders in Germany because of potential sensitive data leaks due to Huawei's relationships to the Chinese government (Bubrowski 2019). However, global 5G supplier alternatives to Huawei are rare and only Nokia and Ericsson may fill the gap eventually left by Huawei in Germany. In February 2020, Chancellor Dr. Angela Merkel has invited Nokia and Ericsson for discussing the 5G technology in Germany (Hoppe et al. 2020). In other words, there is evidence that Nokia and Ericsson, similar as Huawei, are developing their relationships to German politician makers. Nokia and Ericsson would have best prerequisites to replace Huawei if necessary, suppose they can provide similar advanced technological standards as Huawei.

There is no doubt, so far Huawei's technological and business development, through smart inter-personal and inter-organizational relationship grid building, is successful. This chapter contribution also delivers managerial implication for other Chinese firms developing their foreign businesses in light of a network perspective. Huawei has fostered its relationships over a period of around two decades. At the beginning, Huawei has started connecting to private firms such as Siemens in order to gain technological expertise. At later stages, when technologically competitive, Huawei developed its market penetration connecting to leading telecommunication firms flanked by increasing political lobbying power in Russia and Germany. For future research, in the course of studying Huawei's global network ambitions, it is worthwhile to compare the relationship-building concepts that have been applied by Huawei in Germany and the Russian Federation with other international markets. Furthermore, it would be interesting to study whether other Chinese firms, for example, of the emerging electric car industry (e.g., Byton,

BYD, Geely) indicate similarities or differences in their business networking efforts in the Russian and German markets.

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3

Huawei's Growth Strategies and Challenges in Russia

Tatyana Tsukanova

1 Introduction

China has undergone significant changes in its economic and industrial structure since the late 1970s. First experiments brought very positive shifts and provided the basis for rapid growth and competitive advantage. The new context opened the market for private companies. Their development and export were encouraged by tailored government support and policies. However, to enter international high-technology markets that were dominated by the US, Japan, and European countries was not an easy task. Although China had a significant gap in the information and communication technology (ICT) sector (Chen et al. 2011), Huawei helped fill this gap.

Despite some recent challenges, interest in the internationalization of Chinese companies is not declining (e.g., Alon et al. 2018; Panibratov

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2017). Prior research has provided insights into the drivers, entry modes, location choices, performance, and other factors related to the internationalization of Chinese companies (e.g., Angulo-Ruiz et al. 2019; Cooke 2012). However, detailed research on leading emerging market multinational enterprises (EMNEs) such as Huawei Technologies remains very limited, and little is known about the development and evolution of their internationalization endeavors in specific overseas markets. Nevertheless, it is important to study this process in a dynamic and systematic way by looking at the links between their steps and the surrounding context (Fan 2010).

Huawei is a remarkable company. It was founded in 1987 and started its operations as an importer of switches from Hong Kong (Guo et al. 2019). Initially, the company focused on basic technologies but soon started to invest in R&D to offer better solutions and lower prices to their customers. Currently, it is a leading global provider of ICT infrastructure and smart devices. The company specializes in communications equipment, providing customized network solutions for telecom carriers in fixed, mobile, and data communication networks. Huawei had a 22% increase in revenue in 2019 (Huawei Press Release 2019a), despite all of the controversies surrounding this company.

Today Huawei operates in more than 170 countries with nearly 188,000 employees all over the globe and connects almost 40% of the world population (Huawei Annual Report 2018). Its greatest increase has been in Europe, the Middle East, and Africa (ibid.). In Russia, Huawei has made a long journey, from 1997—when its first foreign office in Russia opened—to 2019. It has moved from an unknown company in Russia to a market leader, and from zero revenue to 132.3 billion rubles in 2018, a 114% increase compared to 2017 (SPARK database). There are studies that focus on cooperation between China and Russia. However, there are no in-depth examinations that detail how the leading Chinese telecom company, Huawei, developed its operations in the Russian market, what strategies it adopted to support its growth and what challenges it faced.

Such a study is warranted because Chinese firms often encounter the problem of the liability of foreignness (Zaheer 1995). The study of Huawei's international expansion in Russia offers new opportunities to

better understand the internationalization of Chinese companies and extend our current knowledge in the field of international business. Therefore, the following research questions guide this study:

- What key strategies did Huawei adopt during its internationalization in the Russian market?
- What challenges has Huawei encountered?
- How has Huawei leveraged its advantages in the Russian market?

In answering these questions, this chapter aims to contribute to the ongoing discussion in the international business research on the strategies of EMNEs in other emerging markets and provide some additional insights for researchers and practitioners.

2 A Brief History of Huawei in Russia

Huawei has achieved remarkable growth in global markets by implementing its own version of the internationalization process. As a late-comer, it has successfully followed the “Go global” incentive pushed by the Chinese government. Russia became a profitable market for Huawei, and Huawei is now a core and very competitive player there (see Table 3.1). The company currently serves more than 50 out of 100 of the largest Russian companies in multiple sectors as well as government agencies and SMEs (small and medium-sized enterprises). Thus, close to 1000 Russian organizations use its technologies and solutions (Huawei Press Release 2018a).

Huawei's international expansion started in 1996–1997, when the company entered the market of the Commonwealth of Independent States (CIS) and established a joint venture in Russia (the key milestones are presented in Table 3.2). About ten years later, Huawei entered Russia. By that time, it had already changed its strategic focus from being a small sales agent to an ambitious market player. The development of Huawei in the Russian market went through three sequential stages: *Launch*, *Early Growth*, and *Recent Growth*. This study will explore these three stages

Table 3.1 Huawei in numbers

Name	Huawei Technologies Co. LTD/OOO “Техкомпания Хуавей” (rus)
Location	Moscow
Web	www.huawei.ru
Registration date	15 September 2000
Head company	Huawei Technologies Coöpertief U.A., Netherlands
Key activities	Wholesales of telecommunication equipment
Size	Large, 501–1000 people (as for 31 December 2017)
Sales	\$ 2 124 027 016 (31 December 2018)
Subsidiaries	10: Ufa, Krasnodar, Nizhny Novgorod, Novosibirsk, Vladivostok, Rostov-on-Don, Samara, Ekaterinburg, Kazan, Saint-Petersburg
Target market	B2B (largest Russian companies in multiple sectors, government agencies, SMEs) and B2C
Globally	170 countries, +188,000 employees, highest growth in EMEA region

Source: SPARK database

Table 3.2 Huawei’s major milestones in Russia

Date	Event
1997	Registers the joint venture “BETO—Huawei” in Ufa, with Beto-Konzern, Russian producer of telecommunication equipment
2000	Receives the first orders; opens a technical support center in Ufa; and registers a LLC in Moscow
2001	Opens a training center at the Moscow Technical University of Communication and Informatics
2002	Opens an R&D center in Moscow to develop 3G mobile telecommunication equipment
2003–2004	Begins active cooperation with local telecom operators, wins the contract to supply equipment for Beeline, signs a contract with MegaFon to build GSM900/1800 mobile networks, and wins the contract with MTS to build networks in six regions
2005	Has 500+ employees, opens office in Ekaterinburg
2007	Delivers 3G in Russia; together with TransTeleCom builds the first large-scale NGN network in Russia covering seven time zones and providing access to long-distance and international voice communications
2009	Rostelecom uses Huawei’s solution to build a new fiber-optic communication line between Petrozavodsk and Murmansk

(continued)

Table 3.2 (continued)

Data	Event
2010	Enters the corporate market by developing ties with system integrators and investing in developing affiliate networks; opens a technical support center in Novosibirsk
2011	Enters B2B market in Russia with the sales of smartphones under its own brand
2012	Together with Yota Networks launches the first commercial LTE network in Moscow; starts the educational program "Seeds for Future" and opens its first training laboratory at the St. Petersburg State University of Telecommunications
2013	Opens the first network academies of Huawei at the Moscow State Technical University of Radio Engineering, Electronics and Automation and at the St. Petersburg State University of Telecommunication; launches its new brand of mobile devices "Honor" and opens an official online store in Russia
2014	Signs strategic agreements with Russian Railways, Sberbank, and VTB; and cooperates with MegaFon on the development and implementation of 5G in Russia
2015	Starts the ICT competition Huawei Honor Cup for students; enters into cooperation agreements with the Russian Customs Academy (training), and the Ministry of Education and Science of the Russian Federation (scientific, technical, education and innovative projects)
2016	Together with Rostelecom, finishes the construction of Kamchatka-Sakhalin submarine network that provided access to broadband Internet and digital TV in HD quality for the residents of the Kamchatka Region and the Magadan Region; starts cooperation with the Moscow State University, receives the award of "Leader of competitive procurement" and starts cooperation with GLONASS
2017	Works with Vimpelcom on launching 5G, develops other high-tech solutions, and celebrates 20 years in Russia
2018	Organizes a regional tour across 12 Russian cities to introduce key trends in the industry and plans for the future; opens the OpenLab in Moscow; and cooperates with the Republic of Tatarstan, one of the most innovative regions, organizes multiple conferences for partners
2019	Presents some advances in cloud solutions and information security solutions, cooperates with Tele2, MTC, and Beeline to develop and implement 5G; invests in developing local partners and education; launches joint initiatives on modern ICT including cooperation with MegaFon on Cloud VR, and cloud gaming; and cooperates with universities and organizations on AI

Sources: Based on Huawei's annual reports, analytical reports, SPARK database, official press releases, and official websites

using Huawei's press releases, annual reports, websites, official datasets, cases studies, analytical reports, published interviews, and other forms of public communication.

2.1 Launch

Huawei started its internationalization by exploring similar emerging countries with a less-developed telecom industry. Its initial internationalization strategy was to target markets with a weak telecommunication infrastructure but with great potential for further development. Thus, Russia became the first country where Huawei opened a foreign office. The significant improvement in relations between China and Russia after the fall of the Soviet Union facilitated this step. In addition, it was also a strategic decision because after entering Russia, it was easier to penetrate other markets of the CIS.

At first glance, the initial entry point was rather unexpected. Huawei began its operations in Ufa (EY 2015), the capital city of the Republic of Bashkortostan, located 1165 km from Moscow, with a population over one million people. Still, it is noteworthy, as it was the first representation of Huawei outside China.

Overall, the late 1990s was a difficult period for Russia, marked by a prolonged transitional period and macroeconomic disturbances. According to the UNCTAD (1998), Russia's GDP dropped by more than 40% between 1989 and 1996. The situation was exacerbated by instability in economic, institutional, and political processes, resulting in the crisis of 1998 when the Russian Central Bank devaluated the ruble. Undoubtedly, the crisis had a severe impact on businesses. Capital poured out of the country and many foreign companies left (Frantzschler 2014). Just a year before, Huawei had set up a joint venture, Beto-Huawei, with the Russian telecom equipment manufacturer Beto Konzern (Huawei in Russia 2017). This partnership provided it access to the Russian market, which would have been difficult to penetrate otherwise. However, the joint venture struggled to attract customers until three years later. In 2000, Huawei received its first orders and from that point on, the

business started to grow (Wu and Zhao 2007). Since its economic recovery, the Russian market has become one of the most promising sources of Huawei's foreign sales. In 2001, Huawei opened the Training Center at the Moscow Technical University of Communication and Informatics, and one year later the company founded its R&D center in Moscow (Huawei in Russia 2017).

2.2 Early Growth

During this stage, Huawei became more visible, started to move quickly in the market and demonstrated a significant increase in its presence. In 2004, it began active cooperation with local telecom operators to build GSM (The Global System for Mobile Communications) networks (Huawei in Russia 2017). Huawei won a contract to supply equipment for Beeline-Samara, and signed contracts with MegaFon and MTC, the largest mobile operators in the country (EY 2015). In 2007, together with TransTeleCom, Huawei built the first large-scale NGN (next generation network) in Russia, covering seven time zones and providing access to long-distance and international voice communications (Huawei in Russia 2017). Rostelecom used Huawei's solutions to build a new fiber-optic communication line between Petrozavodsk and Murmansk (Gorlan and Shatilin 2009). In 2010, Huawei entered the corporate market, and a year later entered the Russian B2C market with the sale of smartphones under its own brand (Huawei in Russia 2017). Two years later, it offered a new brand of mobile devices called "Honor" and opened its official online store (ibid.). In 2012, Huawei cooperated with YOTA and deployed their first commercial LTE (Long-Term Evolution) network in Moscow that had outstanding performance (Huawei Press Release 2012).

In parallel, Huawei invested in knowledge development. It launched the educational program "Huawei Seeds for the Future," which allows students from various countries to learn about Chinese culture and take a training course at Huawei's headquarters in Shenzhen (Huawei—Seeds for Future 2017). The goal is to increase the professional skills and

motivation for self-education for future specialists in the ICT industry. During this stage, Huawei opened a training laboratory at the St. Petersburg State University of Telecommunications and donated its latest equipment and control systems to the University (Huawei in Russia 2017). Huawei also started the first network academies at the Moscow State Technical University of Radio Engineering, Electronics and Automation, and at the St. Petersburg State University of Telecommunication (Huawei Press Release 2013). The program is aimed at enhancing the theoretical understanding of the field and providing practical training for senior students, graduate students, and teachers in the ICT field.

2.3 Recent Growth

During this stage, Huawei achieved significant success. The international climate was largely unfavorable for Russia due to confrontation with the US and Western countries (Afontsev 2015), but these antagonisms played into the hands of Huawei. The attitude of most MNEs regarding Russia has changed from seeing it as a rapidly growing BRIC country with major prospects to a slow-growing market with significant problems (Barbieri et al. 2013). Accordingly, many foreign companies have sharply reduced their investments in Russia—except Huawei that follows the motto: “Never waste the opportunity offered by a good crisis.”

In 2014, Huawei and RZD (Russian Railways) signed an agreement on scientific and technical cooperation to develop and modernize wireless networks for professional technological communication (Huawei Press Release 2014a). Sberbank and Huawei entered into a cooperative agreement where Sberbank acted as Huawei’s financial partner to promote Huawei’s products in Russia and the CIS (Huawei Press Release 2014b). Huawei also signed an agreement of strategic cooperation with VTB Bank aimed at developing cooperation in modern telecom solutions (Huawei Press Release 2014c). Furthermore, Huawei and MegaFon agreed to cooperate to develop and implement 5G in Russia (Huawei Press Release 2014d). In cooperation with MTC, Beeline and Tele2,

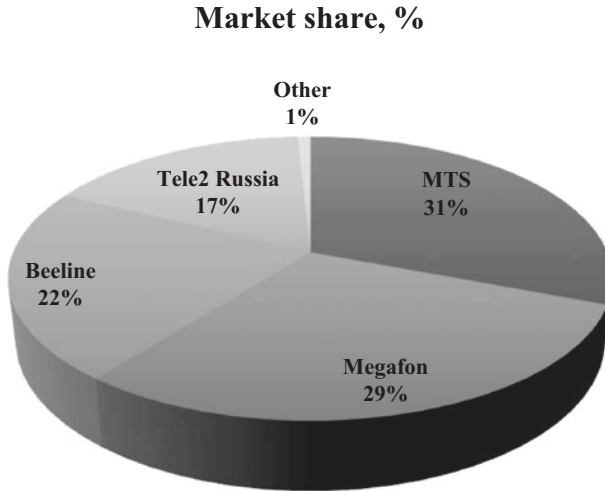


Fig. 3.1 Key players in Russian Wireless Telecom Services. (Source: MarketLine 2019a)

Huawei has also begun developing and implementing 5G. Thus, it has cooperative agreements with all of the leading telecom operators in Russia (Fig. 3.1).

In the meantime, Huawei has launched multiple projects with leading Russian universities, institutions, and research centers. In 2015, Huawei organized the ICT competition Huawei Honor Cup in which more than 1500 students from 70 universities in 21 Russian cities took part (Huawei Press Release 2015a). Huawei's educational program "Seeds for the Future" received the support of the State Duma Committee on Security and Anti-Corruption (Huawei in Russia 2017). Huawei entered into a cooperative agreement with the Russian Customs Academy to train highly qualified specialists (ibid.). The company has also signed a cooperative agreement with the Ministry of Education and Science of the Russian Federation to perform joint work on scientific, technical, education, and innovative projects (Huawei Press Release 2015b). In addition, Huawei has recently launched joint research and educational programs with Moscow State University (Huawei Press Release 2016a), and begun developing joint initiatives based on modern ICT with Skolkovo (Huawei

Press Release [2018b](#)) and the Russian Presidential Academy of National Economy and Public Administration (Huawei Press Release [2019b](#)). Huawei has R&D projects with the Russian Academy of Sciences (Huawei Press Release [2019c](#)) and multiple research centers, and collaborates with various universities and research centers (Huawei's Scientific Collaboration in Russia [2017](#)).

In 2016, Huawei and Rostelecom finished the construction of the Kamchatka-Sakhalin submarine network and provided access to broadband Internet and digital TV in HD for the residents of Kamchatka and the Magadan Region (Huawei Press Release [2016b](#)). In 2018, the company organized a regional tour across 12 Russian cities—the Huawei Conference—to introduce the key trends in the global telecom industry, highlighting its achievements and plans for the future (Huawei Press Release [2018c](#)). It has been cooperating with GLONASS (Global Navigation Satellite System) on the joint development and promotion of navigation and information services in the Russian market, and with Vimpelcom on developing technologies for the Internet of Things, machine interoperability (M2M), virtual radio, and solutions for public security. Additional ventures include its cooperation with the Republic of Tatarstan on multiple regional projects, with MegaFon on Cloud VR and cloud gaming, and with various universities and industry organizations on artificial intelligence (Huawei Press Releases [2016–2019](#)). Huawei has also established its OpenLab in Moscow—a demo-center and laboratory to promote the collaboration of the company's engineers and its partners and customers in developing, customizing, and testing new technological solutions (Huawei Press Release [2018d](#)).

Huawei has invested substantially in educational programs for its clients, partners, and students. Its partnerships are largely focused on developing ecosystems and regional activities through an annual conference with the slogan “enjoy growth, win together” to promote a symbiotic approach to mutually beneficial cooperation (e.g., Huawei Events [2020](#)). The company has developed new technologies with a focus on digital transformation. Two R&D centers are located in Moscow and St. Petersburg, and more than 10% of Huawei's income goes to R&D. Huawei

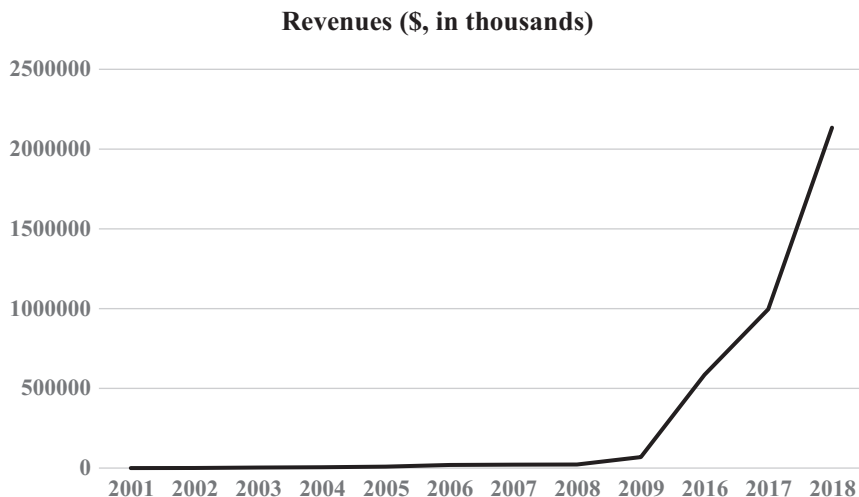


Fig. 3.2 Huawei's revenues during 2001–2009 and 2016–2018. (Source: SPARK database)

has also established new forms of cooperation and programs for long-term research. As Huawei's revenues in Russia depicted in Fig. 3.2 illustrate, the company regards Russia as one of its high-priority markets for partnerships at all levels.

Huawei's corporate business in Russia increased by 76% in 2017–2018 (Huawei Press Release 2018d). Among its prominent corporate clients are the leaders of the Russian banking and energy sectors, including 15 federal ministries and 40 regional offices with more than 700 SMEs. The total number of organizations using Huawei's technologies and solutions is close to 1000 (ibid.).

3 Internationalization and the Window of Opportunity

Huawei's internationalization strategy in Russia can be broken down into three key elements—*Motivation*, *Method*, and *Mindset*.

3.1 Motivation

This element refers the primary motivation to go abroad. The literature provides multiple explanations of the determinants of internationalization and foreign direct investments (FDI): market-seeking, resource-seeking, asset-seeking, and efficiency-seeking (Dunning 1993; Dunning and Narula 2004). Huawei's expansion in Russia was motivated mainly by *market-seeking*. In the late 1990s, due to intense competition in its home market, Huawei considered internationalization as a growth strategy and an opportunity to expand its operations outside China. Therefore, it looked for markets with a weak telecommunication infrastructure (Wu and Zhao 2007). It chose Russia because it saw it as a market with a relatively undeveloped telecommunication industry and great potential, where (1) it could use its existing products and solutions, (2) the entry barriers were relatively low compared to advanced economies, and (3) customers were more price sensitive. In addition, the size of the Russian market was attractive, a factor that is still a major draw for Chinese investors in Russia (EY 2015).

The domestic institutional conditions were also favorable for this strategic decision. Huawei was located in Shenzhen, the first special economic zone in China, and benefited from tax incentives, grants for R&D, and access to loans (Barbieri et al. 2013). China wanted to create a conducive environment for nurturing local companies and encouraging them to invest abroad (Lim and Teo 2018). Prior research has shown that supportive government policies can provide new opportunities for late-comers (Guennif and Ramani 2012). In the mid-1990s, the Chinese government focused on nurturing local manufacturers; in particular, it started to encourage the development of local manufacturers in telecom. Since Huawei was already a successful producer of locally made switches, it received special attention including public support and financial assistance (Guo et al. 2019). Moreover, the government supported the global vision of local companies, and its "Going global" policy has motivated many private firms to enter foreign markets despite all of the challenges.

3.2 Method

Method refers to the entire process of internationalization. Before entering other countries, Huawei had already developed a leading position in China. From the very beginning, Huawei did not start from “the core.” Instead of immersing itself in the “red ocean” of fierce competition with big companies in large cities without appropriate skills, Huawei learned how to swim in the “blue ocean” of the rural market where the competition was insignificant. The backward rural market benefited from Huawei's cheap solutions. It competed successfully against major players there who were not focused on this market. Building on this success, Huawei expanded into the urban market with its cost-effective products and services that have become competitive with Western ones.

By “encircling cities from rural areas” (Zhen and Gibbs 2018: 366), Ren Zhengfei, the founder of Huawei, started investing in foreign markets by implementing the same approach. Huawei entered emerging markets first and then Western markets. Furthermore, in emerging markets, including Russia, Huawei *moved from the periphery to the core*. Hardly any Western company has considered entering the Russian market through the “back door.” Moscow and St. Petersburg were always the main destinations for MNEs, but not for Huawei. While most incumbents in ICT regarded Russian regions as peripheral and secondary, non-essential markets that were too costly to serve, Huawei saw them as an opportunity and started serving these markets using the strategy it had developed in China. There, it seized the window of opportunity provided by the lack of service in China's rural market and positioned itself at the lower end of the domestic market. Thus, it avoided direct competition with established foreign companies. It then replicated this strategy later during its international expansion, demonstrating that the “sideward-crawl crab strategy” (Nakai and Tanaka 2010) is a good way for a late-comer to penetrate the market.

Joint ventures, greenfield investments, and mergers and acquisitions (M&A) are considered the most common entry modes in emerging economies (Meyer et al. 2009). Huawei was no exception. It began its international expansion with a *joint venture* in Russia. Utilizing strategic

partnerships helps Chinese firms address their “competitive disadvantage” (Child and Rodrigues 2005) and mitigate the risks associated with the liability of foreignness (Zaheer 1995). These liabilities stem from the lack of international experience; the lack of knowledge about the local culture, language, and institutions; and the lack of market presence, reputation, and brand name recognition. By 2005, this joint venture had become the largest Chinese investment enterprise in Russia and achieved a 50% market share (Guo et al. 2019). At the same time, Huawei’s history in Russia shows that it did not consider the mode of entry an isolated event. It also paid attention to other attractive opportunities. The pace of change is very rapid in emerging economies, and organic growth by opening its own subsidiaries was the next step in Huawei’s expansion.

3.3 Mindset

Mindset refers to the role of the underlying principles, core values, and philosophy of a company, because they inform the fundamentals of its development and international expansion. When a company enters other markets, it can follow a resource-seeking strategy to obtain access to natural resources, materials, or other factors under more favorable conditions such as lower costs of labor (Dunning 1993). However, Huawei was “born” in this market and expanded abroad by pursuing other goals. It was interested in finding a proper balance between price and quality. Low prices have always been its significant advantage (Low 2007). For example, when Huawei was founded, the price for imported switches was over \$450 per line, while Huawei sold them for less than \$10 (Guo et al. 2019). This *cost advantage* and better speed of service enabled Huawei to enter markets where foreign players had been dominant for a long time. However, an initial low-price advantage is not sustainable without quality. Low prices must be combined with high-quality technology, which requires dedicated R&D efforts (Slywotzky et al. 2006). Thus, the company focused on “the cost-innovation strategy” (Zeng and Williamson 2007) by combining its advantage in producing low-cost equipment with investments in innovations to upgrade the technology.

EMNEs usually develop technological capabilities by imitating or improving existing technologies. However, to achieve a sustainable advantage, they need to transition from a follower to a global leader (Cantwell 2017). To increase the quality of its products Huawei used two tactics: develop multiple collaborative R&D projects with local universities and institutions, and recruit highly skilled engineers. It managed to produce inexpensive but durable products, offer improvements and adaptations, and provide product manuals and training for customers (Guo et al. 2019).

Before entering the Russian market, Huawei had acquired significant technological capabilities. However, given the flood of cheap Chinese imports on the market, the negative perception of inferior products from China was difficult to overcome. Huawei offered much lower prices than its competitors—up to 30% below the market average—and added impressive post-sale services (Barbieri et al. 2013). *The value-for-money* segment in emerging economies is expanding. Firms that can run a business in uncertain economic and political times have an advantage (Ramamurti and Williamson 2019). Huawei acquired these capabilities in China and developed them significantly in Russia. In addition, Huawei utilizes a *customer-centric approach* (Deng et al. 2018) and a globalization strategy by “thinking global, acting local” (Ille and Chailan 2011) and paying close attention to host country markets and cultural differences (Fey et al. 2016). For example, Huawei has mitigated the level of liability of foreignness by hiring skilled native employees and adopting local practices (Oetzel and Doh 2009). This “local immersion” (Deng et al. 2018) has reached 70–80% in countries outside China (Cui and Liu 2019).

A “customer-first attitude” (De Cremer and Tao 2015) is the basis of Huawei's culture and has helped the company achieve a high degree of success globally. Huawei was able to provide better service and differentiate itself from competitors because it significantly reduced the average response time to complaints (Zedtwitz 2008). Thus, Huawei has managed to overcome the latecomer disadvantage by developing better customer relationships at all levels and by offering superior service in addition to innovative, quality products at lower prices.

Table 3.3 summarizes the key facts, circumstances, challenges, and strategic actions of Huawei in Russia based on the analysis provided.

Table 3.3 Evolution of Huawei's strategies in Russia

Timeline	Context	Key problems	Strategic actions
1997–2003 Launch	<p>Russia: Crisis; Weak telecommunication infrastructure; Price sensitive; Major growth potential; Good relationships with China.</p> <p>China: Government support with the focus on nurturing local firms; "Go global" policy; Intense domestic competition.</p>	<p>Very strong LOF; Lack of distribution network, brand name and strong technologies; Perception of Chinese products as of inferior quality.</p>	<p>Use value-for-money product; offer affordable technologies (cheap + durable); Develop partnerships to overcome competitive disadvantages; Interact with local knowledge centers; Undertake R&D early; Hire locals and highly skilled engineers; Learn local "rules of the game."</p>
2003–2013 Early growth	<p>Russia: Recovery and growth; Institutional voids.</p> <p>China: "Go global" policy; Access to financing; Support of "National Champions."</p>	<p>Strong LOF; Underdeveloped distribution networks; Minimal brand awareness; Negative perception of "Made in China" products.</p>	<p>Focus on low-cost innovation capabilities; Offer lower price, high quality, and better services; Form strategic partnerships with major players; Invest in R&D, education, training and collaboration with knowledge centers; Enter B2C market; Adapt to local "rules of the game."</p>

(continued)

Table 3.3 (continued)

Timeline	Context	Key problems	Strategic actions
2014– present Recent growth	<p>Russia: Slow growth; Geopolitical confrontation with the Western countries; Import substitution policy.</p> <p>China: Increase in investments in Russia; “Made for China” focus.</p>	<p>Moderate LOF; Negative perception of Chinese products in the B2C market.</p>	<p>Focus on better customer value proposition with lower price, higher quality, innovations, and dedicated support for customers; Focus on R&D; Invest in long-term projects; Glocalization; Build partnerships with major players and institutional actors; Develop B2C market; Invest in training and education.</p>

Source: Developed by the author

The table demonstrates the crucial role of the context in home and host countries, as they provide the institutional context where each firm is embedded and has to act (Tsukanova 2019). It also reveals the internal strategic disadvantages that Huawei has had to address.

4 Growing Under Adversity: Key Principles

Being a latecomer, Huawei hardly could be sure about its future success. Leadership is not only about being a frontrunner in technology but also about being a leader in the market share in the industry (Mowery and Nelson 1999). As Fig. 3.3 illustrates, by 2019, Huawei had managed to achieve significant revenues from international operations and was no longer a “no-name” company.

Huawei actively developed its B2C sector. The Russian smartphone market in 2018 reached a record high of \$7.56 billion and more than 30

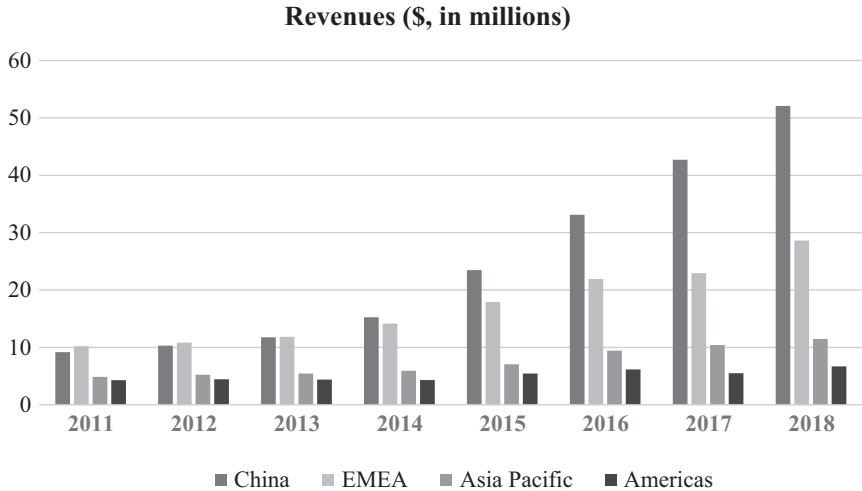


Fig. 3.3 Comparative revenue streams across the regions. (Source: Huawei Investment and Holding Co. Ltd. 2011–2018 Annual Reports)

million devices were sold (Frolova 2019). According to analysts, the share of Huawei in the number of devices sold increased from 11% to 20%, making it one of the top four largest smartphone brands in Russia (Posypkin et al. 2018). Despite being from the “Bricoland” (Bell 2009), Huawei is now a recognized brand ranked number 74 by Interbrand (2019). In 2019, it was included in the list of the world’s most valuable brands by *Forbes*, placing it at number 97, with a brand value of \$8 billion (Forbes 2019). In contrast, in 2000, not a single brand from emerging economies was among the world’s top 75, and lack of awareness about Chinese brands was mentioned as a challenge for Chinese MNEs (Chen 2015). However, by 2019, the Global Fortune 500 list included 121 Chinese companies, with Huawei in 61st place—moving up from number 397 in 2010 (Fortune 2019).

Nevertheless, the global economy is changing. It has become more complicated and more challenging with multiple disruptive forces. Political, economic, technological, and legal disruptions provide advantages for some players and hurt others. It takes a great deal of effort to build a successful global story. Huawei has managed to seize

opportunities in Russia and succeed during crisis periods, but *several challenges* for its future growth should be highlighted.

The first issue is perceptions about the *quality* of Huawei's products in the B2B market in Russia. Unfortunately, the stereotype about "Made in China" is alive, especially in regions where customers still see Chinese products as of poor quality due to their origin and price. Given its reputation as a low-cost manufacturer, Huawei's products are regarded as being of low quality. However, this challenge has waned significantly in recent years (Bukhvalov and Alekseeva 2015). Huawei has invested in brand development and cooperated with popular local companies. Its recent achievements in the B2C sector, including the significant increase in its global brand awareness, confirm a very positive change. In its early years, Huawei engaged in reverse engineering and copied the products of market leaders, but now it has developed its original products that are "Designed in China." While the low-price strategy helped Huawei conquer the global market, the company has stuck to its low-price approach, but it takes more time to explain to customers that quality products can be affordable.

The second challenge is also related to *trust* at the global level. Because of Huawei's historical connection to the Chinese government, the company is often considered as untrustworthy and as a player in Chinese political games. Significant *security concerns* and the risk of espionage (e.g., Doffman 2019) have prompted many countries to block Huawei's access to important infrastructure projects. However, the attitude toward Huawei in Russia is not the same as in Western countries. When Russia faced a major geopolitical confrontation with the West due to the Crimea crisis and the subsequent sanctions placed on Russia (Thompson 2014), China emerged as Russia's only strategic ally in the region. Since 2012, President Vladimir Putin has engaged in more than 20 meetings with Chinese President Xi Jinping, and they have signed a number of economic deals (MarketLine 2019b). In 2018, according to the customs administration of China, trade between Russia and China grew by more than 25% and reached \$107 billion (Prokhorovich 2019). Huawei has gained a significant advantage as a result.

As an ancient proverb says: "The enemy of my enemy is my friend." The current geopolitical situation and international confrontation have

led to a closer alliance between China and Russia in order to counter the Western international system and the US. While each side has its own hidden interests, at the moment both players see the benefits of this cooperation. The example with the Android operating system (OS) illustrates this point. Although Alphabet Inc. limited the options of the Android OS available for the new Huawei smartphone, there is still a “backdoor” (Keane 2020). Furthermore, Huawei does not have the same problems in China, its biggest market, because the Chinese government has essentially banned almost all Google services (Savov 2019). Accordingly, in response to the sanctions, Huawei is developing its own alternative “Harmony OS” (Bloomberg News 2019). Moreover, Huawei has another alternative OS—the Russian Aurora—and they have already launched a pilot project (Reuters 2019).

The third challenge is related to the *import substitution* policy in Russia and its protectionist measures (Zagashvili 2016). Many companies interpret this policy as a ban on purchasing equipment from Europe and the US, but not equipment from Asia. Thus, Chinese companies, including Huawei, feel rather confident in the Russian market. In fact, sanctions have contributed to the growth of Huawei, as they limited competition from the West and increased prices. Instead of buying products in the EU or the US, most companies switched to imported goods from other countries (which can be the same goods but imported into Russia through other countries such as Poland, Belarus, and Ukraine) (Quinn 2019). Thus, the current Russian policy regarding import substitution provides more favorable conditions for Huawei, and the size of this opportunity is very attractive.

Overall, the insights from the analysis reveal that most of Huawei’s strategies in Russia were based on its ability to turn adversity into opportunity by utilizing several interconnected strategies: demonstrating *strategic patience*, developing *ambidexterity* and forming *partnerships*. The ability to leverage these strategies has helped Huawei successfully overcome all market challenges.

A business climate of adversity can bring new opportunities for building and developing a competitive advantage (Chakravorti 2010). Many of these opportunities may not be so obvious and require implementing strategies with the future in mind. Being in an industry where the role of

innovations is crucial forces CEOs to pay close attention to changes in the industry and market, and tendencies in consumer preferences. Long-term thinking helps firms mitigate risks and sustain their success over the years. As the history of Huawei in Russia shows, the company has a great deal of *strategic patience*. It went global and accepted losses in the short-term in order to achieve long-term gains.

In the late 1990s when the Chinese market was full of foreign products from Ericsson, Motorola, and Nokia, Huawei decided to undertake risky investments in R&D to develop next-generation solutions, which became a crucial decision for its success later. In fact, adversity and uncertainty were not obstacles for Huawei's development and expansion. Ren Zhengfei once said: "There are a lot of different opportunities in the world due to imbalanced economic development. I am very enthusiastic about exploiting those markets, especially in developing countries" (Luo et al. 2011: 69). The results of his investments reveal the benefits of this approach and Huawei replicated it in Russia. When Huawei entered Russia, it competed with Cisco in the B2B market, but today Huawei is the market leader. As one of its top managers noted: "Our main competitor—is only us. We know the market, we monitor everything that is going on, and always see the potential for development" (cited in Karasev 2018). According to the TELMI alliance (ibid.), the share of Russian manufacturers in the domestic telecom equipment market is only 6–8%. More than 80% of the market is controlled by Chinese companies, such as Huawei and ZTE, and about 10% by Western companies, such as Cisco and Nokia.

After consolidating its position in the B2B sector, Huawei entered the B2C market in Russia (Huawei in Russia 2017) but it did not happen suddenly. The company had already acquired significant experience in producing affordable smartphones that were sold under the brands of operators in their own retail chains. Russia has been a very profitable market for Huawei's international expansion with the same annual growth as in China—about 10–20% (Karasev 2018). Western sanctions on Russia have actually opened up new opportunities for Huawei. Since 2014, Russia has become a top priority area for Chinese investment (EY 2015).

Ambidexterity is the next principle that contributes to the successful international expansion of Huawei in Russia. Ambidexterity implies the ability to utilize two different and sometimes opposing strategies simultaneously: exploitation and exploration versus efficiency, flexibility, stability, and adaptation (Luo and Rui 2009). Being ambidextrous is a good practice for any firm, but EMNEs usually have a greater impetus to implement this approach. Huawei was founded in China where relationships are valued, and institutions are weak. From its domestic operations Huawei gained experience in dealing with external uncertainties and cultivating network ties that could provide access to resources or markets (Meyer 2004). By entering a new foreign market, Huawei integrated exploitation and exploration in its strategy and found a balance between short-term survival and long-term growth. To realize its goals, it received short-term profits from the home market and government support, and achieved long-term growth by carefully implementing internationalization and market development. The company learned to deal with the difficult institutional environment in China and invested in learning about the Russian institutional context. By now, Huawei has 23 years of experience doing business in Russia, giving it a valuable competitive advantage over others.

In their early stages, EMNEs as latecomers usually develop technological capabilities by imitating or improving existing technologies. However, to achieve a sustainable advantage, they need to transition from a follower to a global leader (Cantwell 2017). Ramamurti and Williamson (2019) state that EMNEs face three types of “capability holes”: (1) technology and innovation capabilities, (2) brand and marketing capabilities, and (3) capabilities to build and manage international operations. While exploiting its position in China through access to cheaper resources and other firm-specific assets, Huawei invested in R&D, human and social capital, and large-scale infrastructure projects, understanding the importance of innovations and “network effects” in the ICT sector (Katz and Shapiro 1994). Huawei learned how to be ambidextrous to become a global leader.

Finally, the third factor is *partnerships*. Social capital facilitates cooperation, which has important implications for growth and competitive

advantage (Hoskisson et al. 2004). Prior research confirmed that social capital is especially helpful in emerging economies (Manolova et al. 2019). During a company's internationalization drive, social capital can provide access to resources (Adler and Kwon 2002) and help build cooperative partnerships (Kostova and Roth 2003).

According to Mathews (2006), EMNEs can thrive overseas by *linking* with partners, *leveraging* their resources, and *learning* from them (the LLL theory). In many emerging economies, partnerships can be the best way to avoid the traps stemming from industry specifics or institutional voids (Khanna and Palepu 2000; Tsukanova and Zhang 2019). These ties are useful for reducing the liability of foreignness. When entering foreign markets, many Chinese companies rely on M&As as a way to acquire the expertise and resources needed to compensate for their weaknesses (Zhong et al. 2013).

The joint venture that Huawei organized with Beto Konzern in Russia can be described as a shortcut for acquiring market share and gaining access to distribution networks and other resources. By investing in relationships and initiating many joint projects that at first glance might be regarded as philanthropic (e.g., providing free equipment for the labs at the universities), Huawei has managed to build its reputation as a reliable, high-quality manufacturer, and important stakeholder. Thus, Huawei's formula for achieving a leadership position in the Russian market and any other international market is to (1) invest in R&D, (2) collaborate with the knowledge centers (universities, institutions), and (3) cooperate with partners. Huawei also cultivates *partnerships* by integrating these three elements. For examples, it organizes joint R&D projects with other companies, launches educational and research projects with partners at the universities, and develops and sustains existing partnerships. Thus, partnerships in internationalization help Huawei respond to competition, expand and strengthen its technical potential, monitor market and industry trends, recruit skilled employees, and acquire new knowledge and other resources. Guided by these three principles—strategic patience, ambidexterity, and partnerships—Huawei has managed to strengthen its position in the Russian market and increase the likelihood of its future growth.

5 Conclusion

To summarize, Huawei's case in Russia sheds light on how latecomers expand into other emerging markets. This chapter analyzed the strategies that helped Huawei catch up in the ICT industry. The insights it revealed should prove useful for other EMNEs. In terms of key strategies, Huawei chose a slower, more conservative entry into internationalization by building joint ventures and strategic alliances, and developing joint projects with various stakeholders. The company was also able to leverage the overall deteriorating economic situation in Russia. At the same time, Huawei demonstrated that it is possible to anticipate challenges and seize promising opportunities by using strategic patience, focusing on long-term goals and funding them with short-term gains, and building partnerships. This strategy is likely to be effective in the future.

This chapter adds to our understanding about the internationalization strategies of Huawei in Russia and contributes to the international business research by combining theoretical perspectives and empirical evidence. It has policy implications for other emerging economies that are looking for ways to raise their international presence, because they can learn from the practices adopted by the Chinese government. For practitioners, the study implies that it is important to align the internationalization strategy with the resources available to a company, leverage these advantages, and adapt to local realities to gain legitimacy.

The limitations of this study are related to the sources of information, which were limited to the available secondary data. In addition, this study can be considered a case study and may not be representative of all Chinese MNEs or EMNEs across other sectors and markets. However, it opens up interesting avenues for further investigation that could include the consideration of other companies and firsthand data to deepen our knowledge on the subject. This research is only one step in investigating the internationalization of Huawei in Russia, and offers a rather broad overview of the key issues related to its growth strategies and challenges. Future studies may focus in more detail on more narrow aspects of Huawei's international expansion. Examples include the role of the

experience of the top management, strategies to overcome the negative image of the company, the role of government policies and the institutional environment, the leveraging of social capital, and comparative studies across countries. Such investigations could add value to the international business field, as there are many interesting routes through which companies from emerging economies can go global.

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4

Crouching Tiger in a Transition Economy: Development of Huawei's Operations in Poland

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and Laura Zoboli

1 Introduction

Poland has been a key market for Huawei in Central and Eastern Europe. Huawei entered Poland in 2004 and has exponentially increased its market shares to become the top supplier of smartphones in Poland in the first quarter of 2019.

In communication infrastructure, the 5G network holds promises to enable a considerable amount of new functions and applications, which go far beyond the current mobile communications services. The worldwide 5G revenues are expected to reach €225 billion in 2025 (ABI Research 2016). Currently, the 5G developments are crucial for the European Union (EU) competitiveness (EU Nis Cooperation Group 2019). Huawei seemed to be a natural partner of Polish telecoms for the deployment and maintenance of the 5G infrastructure. However, in

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2019, legal developments linked to alleged security threats jeopardized the economic prospects for Huawei. This chapter will provide the readers with an overview of the Polish smartphones and electronic devices markets, discussing the role of Huawei. Subsequently, legal complexities will be considered, with a view to present a balanced account of the security concerns and corporate activities.

The article relies on quantitative data (including sales, market shares, and financial results derived from Euromonitor's Passport and Orbis databases) and qualitative secondary data sources (e.g., media accounts, news releases, and interviews), which were systematically collected, organized, and interpreted in line with methodological standards of content analysis, with a view to ensure triangulation of data sources and develop a chronological and thematic narrative that is presented in the following sections of this chapter.

2 Literature Review

Multinational corporations in high technology industries have to cope with expectations of multiple stakeholders other than their customers, suppliers, and competitors, and Huawei's experiences in Poland present particularly interesting examples of the potential challenges. These interactions form a part of a non-market strategy, as proposed by Baron (1995), particularly relevant for markets that are heavily regulated, not merely shaped by the market forces of demand and supply, such as telecommunication industry (Baron 1995: 50). A non-market strategy entails a commitment to sustain and improve satisfactory corporate performance by addressing the emerging institutional and societal circumstances (Mellahi et al. 2016: 144). Compliance with the demands of stakeholders that leads to nearly symbiotic relations helps companies acquire legitimacy, in line with the assumptions of institutional theory (Mellahi et al. 2016: 151). Non-market strategy is particularly relevant for weak institutional environments (Dorobantu et al. 2017), or for organizations operating in turbulent environments, dynamically changing due to emergence of breakthrough innovations or new generations of technologies that destroy competences of incumbents (Tushman and

Anderson 1986) and present major regulatory challenges. This latter case appears relevant for the experiences of Huawei in international markets, including Poland. The company's struggles with regulators and governments, including Poland, mirror earlier experiences of the Japanese company Fuji and its American competitor Kodak, facing market access restrictions (Baron 1997). In the non-market perspective, economic values can be created or also destroyed in political processes, through interactions between companies and policymakers, regulators, governments and other stakeholders affiliated with the public sector (Cummins and Doh 2000). In the international context, shortcomings in relations with governments, public opinion and media may have severe consequences for the performance of companies in a given host country (Bonardi and Keim 2005). Companies may resort to defensive or proactive activities, including public relations, lobbying and stakeholder networking (Mellahi et al. 2016: 155). Less experienced subsidiaries of multinational corporations may imitate the moves of other foreign companies or even direct competitors active in the same host country to gain legitimacy (Banerjee and Venaik 2018). They also have to ensure compliance with explicit expectations of regulatory and standard setting agencies (Voinea and van Kranenburg 2018). Over time, foreign subsidiaries strengthen their position in the local market through a process dubbed 'regulatory search', which consists in gaining extensive knowledge about regulatory demands and upcoming environmental changes (Jiao et al. 2020: 156).

Managers of subsidiaries of multinational corporations are faced with difficult dilemmas when institutional norms of corporate headquarters and stakeholders in the host country diverge (Crilly 2011). For example, corporate headquarters may strive to satisfy the demands of the home country government, which could be related to job creation, location of research and development (R&D) activities, adherence to technical standards or political regulations, data sharing, or investment priorities. These demands might not be fully aligned with the expectations of governments or other stakeholders in the host country where the subsidiary is located, especially with respect to the location of value-creating activities (including options of export, local manufacturing, or local design and research and development) and compliance with specialized regulations (e.g., environmental standards, labor practices, or data protection laws).

Institutional contradictions are likely to emerge in the global context, with one stakeholders' group giving legitimacy to a company, while others withdraw it in reaction to the same business moves (Mellahi et al. 2016: 154).

Furthermore, conflicts of norms between home and host country stakeholders could further be complicated by the multiplicity of interests and a large number of heterogeneous host countries in which the company operates. These challenges are particularly apparent in the innovation-intensive environments of the global telecommunication and electronics sectors, with governments striving to spur indigenous innovations through standard-setting and procurement of network equipment, following the paths of the Chinese government that succeeded in strengthening the technological capabilities of domestic suppliers, including Huawei, through carefully designed technical interventions and standardization initiatives (Gao 2015). The relationship between the internationalization of a company and the institutional environment, including regulations, can be twofold. On the one hand, it can be seen as a barrier or obstacle to the internationalization of companies, whereas on the other, the institutional environment can drive the internationalization process of firms (Coeurderoy and Murray 2008; McGaughey et al. 2016).

The complexity and ambiguity of regulations and legislative processes in a given host country may be hazardous and difficult for new companies to comply with (Coeurderoy and Murray 2008). Of course, regulatory frameworks differ with regard to opportunities and ease of doing business (Williamson 1991; La Porta et al. 1998). For example, countries with stable political regimes, transparent regulations and strong property rights enforcements seem to be more protective in running a business than those with high levels of political uncertainty (Oxley 1999; Williamson 1991). The quality of law enforcement and the normative value system of a foreign market may also significantly affect costs for the firm faced with the threat of commercial malfeasance (Coeurderoy and Murray 2008).

Nevertheless, institutional factors can also drive the internationalization of companies, especially originating from emerging economies (Yan et al. 2018: 682) where local policies and regulations related to outward

foreign direct investment play an important role (Luo et al. 2010; Cuervo-Cazurra and Ramamurti 2014). This is, among others, the case in China, where for decades policymakers have aimed to influence the internationalization of locally established companies, which usually comply with relevant regulatory provisions (Luo 2003; Deng 2013; Lu et al. 2014; Xu et al. 2014; Băzăvan 2019). The rapid growth of Chinese outward foreign direct investments has been initiated and encouraged by the governmental policy framework (Buckley et al. 2007; Xia et al. 2014). Unfortunately, these increases have not yielded consistently positive results worldwide and may rather reflect a “trial-and-error approach” (Luo et al. 2010: 75).

The chapter will present the case study of Huawei’s development in Poland, illustrating the sequential processes of market entry: an initially slow growth of sales driven mostly by exports and supply to niche clients, followed by opening of a local subsidiary, targeting mass-market customers, acquiring new distribution channels, and investing in promotional activities, coupled with corporate visibility through sponsorship, scientific relations, and celebrity endorsements. The market strategy of Huawei in Poland proved successful, accounting for unprecedented sales growth and increases in market shares both in consumer markets (mobile phones and portable consumer electronics) and in the communication network infrastructure market. Nevertheless, this growth was jeopardized by Huawei’s suboptimal non-market strategy, in particular the shortcomings in its relations with regulators and public sector stakeholders, which led to legal problems that the company faced in 2019.

These developments derive from the existing accounts of Huawei’s international expansion (see, e.g., Luo et al. 2011; Guo et al. 2019), which highlighted the importance of large consumer markets, cost awareness, and product innovation but did not recognize the importance of non-market factors and stakeholder relations, especially as government connections can promote or damage corporate performance (Yan and Chang 2018). The chapter presents empirical analyses of quantitative market data and factual accounts of historical developments, with the aim of offering an evidence-based discussion of Huawei’s experiences in Poland, which could be relevant for multinational companies that operate in turbulent, regulated sectors in various parts of the world.

3 Poland—Market Potential and Sales Growth of Mobile Phones and Electronics

Poland is the largest market for digital consumer products and communication network infrastructure in the Central and Eastern Europe, and one of the EU’s fastest-growing economies. Based on Euromonitor’s estimates (Euromonitor 2019), Poland’s annual sales volume went up from 6 million mobile phones in 2006 to 11.7 million handsets in 2018.¹

In 2014–2018, Poland witnessed a particularly strong growth of the mobile phone market (25.1%), surpassed only by Chile, India, Romania, Vietnam, and Morocco. As Fig. 4.1 indicates, many countries have experienced contradictory tendencies during the same period, with notable decreases in the volumes of sold mobile phones in all European countries, apart from Poland and Romania. A similar performance was also observed in the portable consumer electronics market, where Poland registered a growth rate of 23.3% in 2014–2018. Other countries with high market growth included India, Morocco, Romania, South Africa, and Vietnam, while numerous European countries saw their electronics markets

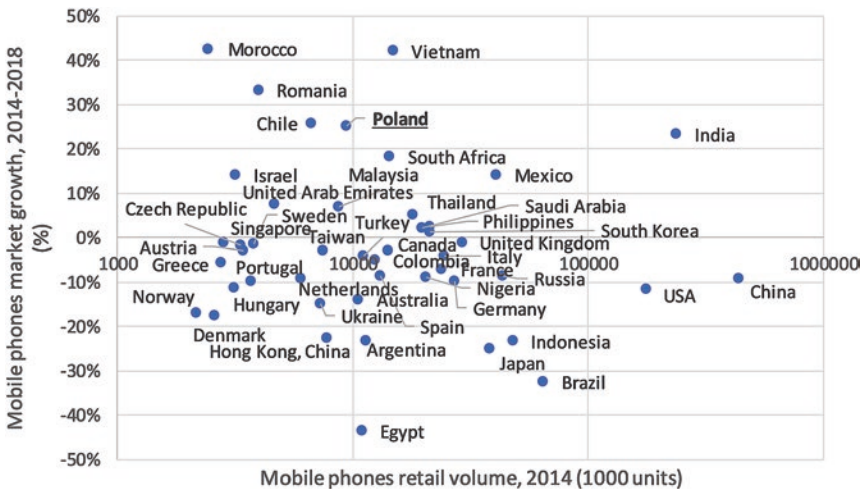


Fig. 4.1 Mobile phones retail volumes, 2014 (log scale) and market growth, 2014–2018 (%). (Source: own analysis, based on Euromonitor’s Passport database)

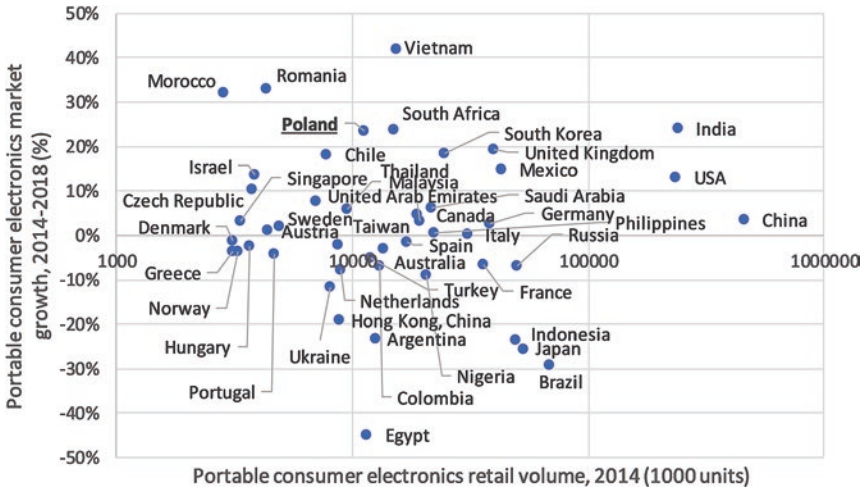


Fig. 4.2 Portable consumer electronics retail volumes, 2014 (log scale) and market growth, 2014–2018 (%). (Source: own analysis, based on Euromonitor's Passport database)

shrinking in the same period (Fig. 4.2). As Figs. 4.1 and 4.2 demonstrate, the Polish market is also sizeable in terms of sales volumes, albeit these volumes still far below the most significant European markets. Owing to Poland's vast population, electronics suppliers can anticipate further growth in sales volumes. Therefore, the interest of electronics producers in the Polish market should not come as a surprise.

4 Huawei's Initial Approach to the Polish Market

Huawei's case is an example of successful market entry by a Chinese company in the Central and Eastern European region (post-socialist transition economy). Polish-Chinese relations have somewhat contributed to Huawei's development in Poland. Historically, Poland was one of the first countries to establish diplomatic relations with post-war China. China and Poland are important partners in the "17 + 1" initiative (the Cooperation between China and Central and Eastern European

Countries, aiming to stimulate reciprocal investment and business relations), and Poland is its largest participating country, as measured by GDP and population. It is one of the first countries that signed a cooperation agreement with China within the “Belt and Road” framework. Poland is also the only country from the Central and Eastern Europe that became a founding member of the Asian Infrastructure Investment Bank (Guangyuan 2018; Xin and Zhigao 2018).

Huawei had initially a rather cautious approach to the market, mirroring its operations in various other European countries. It was delivering specialized telecom equipment, relying on direct sales channels and distributors, working with a small group of telecom operators without directly facing end-users, nor offering consumer products. Such sales operations were based on the traditional export model, with R&D operations in China, and technical services required for implementation and maintenance delivered locally with Chinese in-house support. Over time, Huawei has gradually become more engaged in the local markets in Europe, including Poland, strengthening its presence thanks to agreements with local distributors and joint projects with telecom operators.

Even though Huawei is nowadays mostly associated with digital consumer products such as mobile phones and portable electronic devices, the company has started its presence in the Polish market as a supplier of communication network and super-computing infrastructure. The company has established sizeable local operations in Poland, leveraging its relations with key telecom operators.

The case of Huawei Poland is often recognized as an example of successful Polish-Chinese cooperation. Huawei’s activities in Poland include not only typical business operations but also collaborations with universities, as well as social outreach and philanthropy.

Initially, Huawei started with low value-added supply contracts for telecom equipment, serving most of the operators in the Polish market. Huawei’s stronger presence in Poland started in 2008 when a mobile telecom operator CenterNet signed an agreement for the supply of a high-end equipment and management of mobile services infrastructure. CenterNet was a newly established operator that acquired mobile telephony license in November 2007 (Polska Agencja Prasowa 2008; Świderek 2009). It entered a market that had already been divided among

four players: Polkomtel, PTK Centertel (Orange), Polska Telefonia Cyfrowa (T-Mobile), and P4 (Play). Owing to the cooperation with Huawei, CenterNet launched its services in May 2009. Its market entry, as the fifth mobile operator, has offered opportunities to increase telecom competition in Poland (UKE 2010).

Since 2011, Huawei has expanded its activities in Poland and signed various agreements with Polish partners. The year of 2013 marks a significant change in Huawei's approach to the Polish market, with aggressive sales campaign, numerous new partners, various agreements and dedicated projects. Table 4.1 presents examples of Huawei's local cooperators and agreements.

Huawei's partnerships resulted in its engagement in developing pioneering technical deployments in Poland. In 2013, it participated in the launch of free LTE network in the Polish town Ozarowice, based on Huawei's equipment and a specially designed, customized eLTE solution (Huawei 2019a). In 2014, together with the Polish mobile operator Polkomtel, Huawei carried out the first successful trial of LTE voice and SMS services in Poland (VoLTE) (Piechocki 2014). In the same year, with mobile operator Orange Poland, Huawei conducted a successful test of aggregation of three frequency bands with LTE technology to increase the speed of data transfer (Orange 2014). In 2016, Huawei and Orange Labs jointly launched a test station aimed at aggregating four LTE carriers and improve the data transmission speed on the frequencies held by Orange. Orange and Huawei have continuously been working on LTE developments in Poland and in October 2016, they launched in Warsaw the fastest Polish LTE base station (Jabczyński 2016). In 2017, Integrated Solutions (Orange Poland's subsidiary—IT integrator) became an authorized partner of Huawei (Urbanek 2017). In 2018, together with the mobile operator P4, Huawei implemented a RAN-terminal coordination product to enhance the user-perceived mobile video experience. In the same year, Huawei and Orange Poland launched a base station supporting 5G technology in Gliwice to carry out field tests of the technology (Kelly 2018a). Another mobile operator, T-Mobile Poland, worked with Huawei to test the first 5G network in the center of Warsaw, the capital of Poland (Kelly 2018b). Huawei was instrumental in establishing LTE networks of multiple operators and offered end-user equipment for these

Table 4.1 Examples of Huawei's local cooperators and agreements in Poland

Partner name	Year	Type of agreement	Short description
<i>Hardware distributors</i>			
ABC Data	2011	Distribution of consumer products	Agreement for distributing Huawei's products in Poland and the Baltic States (i.e., consumer products, including mobile phones, smartphones, and tablets as well as GSM modems) (ABC Data 2011, 2016).
Action	2013	Distribution of consumer products	Agreement regarding the distribution of modems, tablets, and routers in Poland) (Action 2013).
Ingram Micro Poland	2015	Distribution of consumer products	Partners established strategic cooperation aimed at distributing the brand's offer (primarily phones) on the Polish market (Android Centrum 2015).
KOMSA Polska	2015	Distribution of consumer products	Distribution agreement, offering technologically advanced smartphones, complementary accessories and routers manufactured by Huawei, alongside competitively priced Huawei Honor budget smartphone brand (KOMSA Polska 2015, 2016).
TelForceOne	2018	Distribution of consumer products	Distribution agreement for mobile accessories (e.g., phone cases, chargers, power banks, speakers, headphones), smart bracelets, and weights (Paslawski 2018).
<i>Telecom operators</i>			

(continued)

Table 4.1 (continued)

Partner name	Year	Type of agreement	Short description
CenterNet	2008	Supply of network infrastructure; services for telecom network	Initial agreement with Huawei regarding supplying and managing the network infrastructure for mobile services (Polska Agencja Prasowa 2008).
Polska Telefonia Cyfrowa (PTC) and PTK Centertel	2012	Supply of network infrastructure	PTC and PTK Centertel signed contracts with Huawei for the supply of equipment to upgrade their network infrastructures. Cooperation between PTC and PTK Centertel was limited to technical aspects. Each party remained the owner of its network elements and frequencies. Operators remained competitors on the wholesale and retail telecommunications services markets under existing brands (T-Mobile 2012).
Polkomtel	2013	Supply of network infrastructure	A contract to deploy 100G backbone network for Polkomtel (TeleGeography 2013).
P4 (Play Mobile)	2013	Supply of network infrastructure/ services for telecom network	An agreement to use LTE antennae for nationwide mobile broadband (Future Mobile Communication Forum 2013).
Orange	2013	Supply of network infrastructure	Framework agreement concerning the supply of second-generation E-band microwave products (Telecompaper 2013).

(continued)

Table 4.1 (continued)

Partner name	Year	Type of agreement	Short description
Hawe	2013	Supply of network infrastructure	Huawei signed a letter of intent for the deployment of LTE network and offered to credit Hawe's purchases in return for the use of its infrastructure by the telecom operator (Puls Biznesu 2013).
<i>Research centers</i>			
University of Warsaw	2015	Supply of data centers	Huawei deployed a large-scale Apache Spark installation at University's supercomputing center ICM.
Poznan Supercomputing and Networking Center (PSNC)	2016	Supply of data centers	Cooperation in the fields of cloud computing, cloud storage, and high-performance computing (PCSS 2016).
<i>Innovative projects</i>			
City of Zmigród	2014	Network services	Huawei and Bombardier Transportation demonstrated through a rail test track in Zmigród an integrated rail security solution with eLTE wireless rail communication system and security portfolio (Railway Technology 2014).
Polsat Group	2016	Network services	Huawei deployed an integrated sales platform for the multimedia and broadcasting company Polsat Group (Huawei 2016a; Telecompaper 2016).
City of Kielce	2017	Supply of infrastructure	Huawei cooperated with Electronic Control System on the project Smart Save, aimed at controlling road lighting in the Polish city Kielce. Huawei allowed the users to test its innovative technology for free (Blikowska 2017).

Source: authors' compilation based on EMIS database

networks. Projects with telecom operators cemented Huawei's presence in the high-end market in Poland. The company started as low-end telecom equipment supplier but became a key strategic partner, co-developing core technologies needed by the telecoms, including customized solutions not yet available from other players. Not surprisingly, Huawei was also looking forward to delivering 5G networks, based on its substantial experiences with LTE. Nevertheless, since 2019, due to cybersecurity allegations, the arrest of Huawei's executive in Poland on espionage charges and the Polish government plans to exclude Huawei from the supply of 5G infrastructure, the company is expected to witness a significant weakening of its market position (Polska Agencja Prasowa 2019).

5 Huawei's Activities in Consumer Market in Poland

Apart from supplying telecom infrastructure, Huawei has also developed its foothold in the consumer markets for mobile phones and portable electronics in Poland. Main competitors in these markets in Poland are Samsung, Apple, Xiaomi, Lenovo, LG, and Nokia. In 2010, Samsung was the largest supplier of mobile phones and portable consumer electronics in Poland, having sold over 2.2 million mobile phones and 2.4 million portable consumer electronics devices. Huawei started active consumer sales in Poland in 2011, leveraging its distribution agreement with ABC Data. The company launched a customer service line for owners of Huawei's mobile devices in 2013, reaching by 2014 sales of over 80,000 mobile handsets and over 77,000 portable electronics devices, but the scale of operations was still substantially smaller than Samsung's sales (Gajkowski 2013).

Figure 4.3 presents Huawei's operations across European countries in 2014, with substantial operating revenues of its Polish subsidiary (amounting to about €260 million), outperformed in Europe only by local branches of Huawei in Germany, Italy, Spain, the Netherlands, and the UK. It is worth to note that by 2018, the company more than tripled the revenues, reaching the level of €893 million.

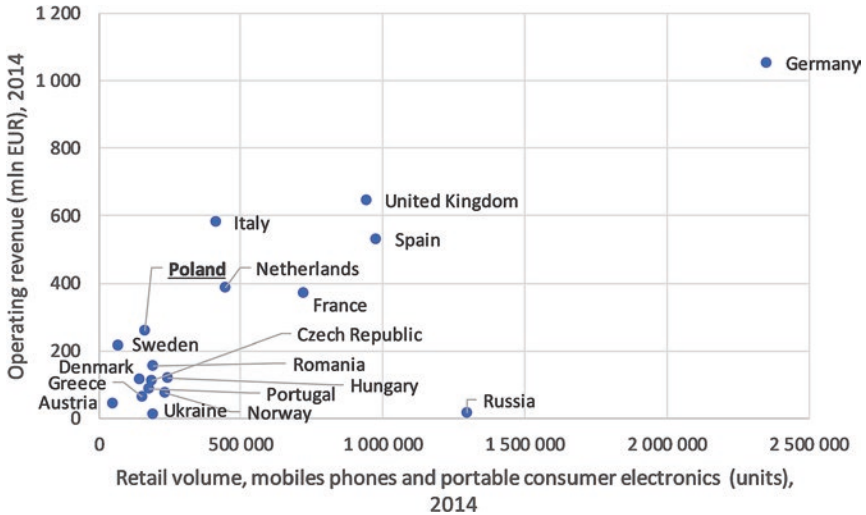


Fig. 4.3 Huawei's retail volumes (mobile phones and portable consumer electronics) and operating revenues of Huawei's subsidiaries in European markets, 2014. Data for the Netherlands exclude revenues of the holding company Huawei Technologies Cooperatief U.A. (Source: own analysis, based on Euromonitor's Passport and Bureau van Dijk's Orbis databases)

Huawei recognized that Poland is a key market in the region and in 2015, it launched an aggressive campaign to secure a 10% market share by improving its PR and marketing activities (Rzeczpospolita 2015). This declaration was followed by a set of promotional moves which included celebrity endorsements by Robert Lewandowski, captain of the Polish national football team, rated among the best football players in the world. Huawei has also gradually developed its presence by extending its distribution network (see also: 5.1) (Xinhua News Agency 2015a). Agreements with distributors allowed Huawei to reach out to end consumers, offering mobile phones and portable electronics products. Distributors understood the specific needs of local customers and helped Huawei establish sales channels and master promotional techniques. As a result, Huawei's expansion target was successfully reached. Moreover, between 2017 and 2018, encouraged by growing sales, Huawei had increased its employment in Poland by around 100 new sales specialists (Waszczuk 2017). The disparity between Samsung and Huawei in Poland had been

substantially reduced by 2018, when Huawei's sales volumes in both markets exceeded 2 million units, with market shares of 17% (mobile phones) and 14.7% (portable consumer electronics). These impressive increases in market shares are visible in Figs. 4.4 and 4.5, and tendencies observed in Poland mirror the developments in the global market.

Huawei experienced high increases in market shares in mobile phones and portable personal electronics in European countries, with Poland being one of the most promising markets for the company in the Central and Eastern Europe. In December 2018, Huawei opened its first official store in Arkadia shopping mall in Warsaw, and in 2019, it unveiled its official online store for Polish customers—Huawei.pl (Strefa Biznesu 2019). According to IDC, Huawei became the top supplier of smart-phones in Poland in the first quarter of 2019, having outperformed Samsung and Apple (Zielińska 2019).

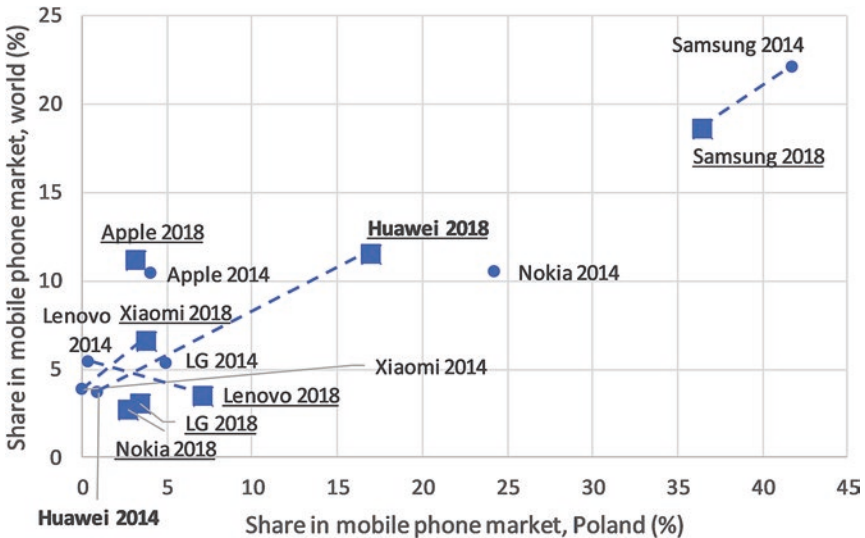


Fig. 4.4 Shares of major producers in the mobile phone market worldwide and in Poland, 2014 and 2018 (%). (Source: own analysis, based on Euromonitor's Passport database)

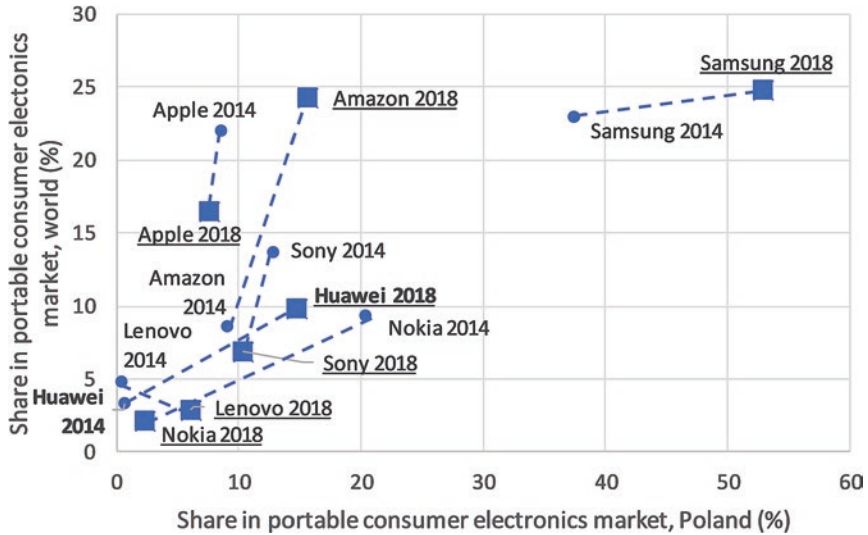


Fig. 4.5 Shares of major producers in the portable consumer electronics market worldwide and in Poland, 2014 and 2018 (%). (Source: own analysis, based on Euromonitor's Passport database)

6 Huawei's Corporate Developments in Poland

Following its commercial success in the consumer market, Huawei has aggressively recruited sales, marketing, and customer service specialists (Telecompaper 2019a).

Research and development activities of Huawei yielded impressive results in terms of patenting in Europe. In 2017, Huawei was the number one patent applicant to the European Patent Office (Huawei 2018). Despite significant patenting activities and R&D expenditures in other countries, Huawei in Poland did not demonstrate strong innovation performance that would go beyond the sales of products developed elsewhere (Polish Patent Office 2019).

At the same time, Huawei collaborated with leading academic institutions in Poland by establishing joint science-industry innovation centers. In 2015, it delivered to the University of Warsaw Interdisciplinary Center

for Mathematical and Computational Modelling (ICM UW) one of the largest installations of Apache Spark in Europe (HPCwire 2015). The project created a high-performance computing environment, suitable for scientific research and met the requirements imposed by the EU in connection with the project “PLGrid” (Konsorcjum PLGrid 2019), being the largest Huawei high-performance computing deployment in Europe (Huawei 2015a). In 2016, Huawei together with Poznan Supercomputing and Networking Center (PSNC) opened the PSNC-Huawei Innovation Center aimed at joint research in the fields of big data, cloud storage and high-performance computing (Huawei 2016b). Simultaneously with the inauguration of the PSNC-Huawei Innovation Center, Huawei’s “Eagle” supercomputing system was officially commissioned, a system highly ranked on the TOP500 supercomputer list (TOP500 2015). This new infrastructure is an important element of pan-European computing platform, implemented by the PRACE (Partnership for Advanced Computing in Europe) initiative (Skrycki 2016).

Apart from scientific infrastructure supply, Huawei also offered interesting opportunities for students. In 2014, the company established a partnership with Polish universities as part of its global initiative “Seeds for the Future.” The program aims to support technology education, adapt it to the market needs and develop talents among university students. The most successful participating students have gained an opportunity to take part in internships and develop their careers at Huawei Poland (Huawei 2014). As of 2019, the program has been implemented in 108 countries worldwide, and was offered at 11 Polish universities, including University of Warsaw, Jagiellonian University, Warsaw University of Technology, and Wrocław University of Technology (Huawei 2019b; Politechnika Świętokrzyska 2019). Other Huawei’s outreach activities included: holiday event “Active Summer” (with Polish mobile operator Polkomtel) that included the creation of sport zones on the seaside beaches in Leba, Kolobrzeg, Ustka, and Pobierowo, launch of Huawei’s brand’s zone, beach volleyball competitions, dancing courses, fitness lessons, and online competitions (in 2015); organization with the Polish Office of Electronic Communications (pl. *Urząd Komunikacji Elektronicznej, UKE*) of the third and fourth editions of the competition “Girls in New Technologies” (pl. *Dziewczyny w Nowych*

Technologiach)—Huawei offered internships to talented women in the field of new technologies (in 2015 and 2016); pilot project run by Huawei and Costa Coffee aimed at consumer testing of Huawei’s innovative tablet and smartphone solutions (in 2018) (Huawei 2015b; ISB News 2018; Klimczuk 2015; Polska Agencja Informacji i Inwestycji Zagranicznych 2016; UKE 2015).

Huawei’s actions were noted, among others, at the European Economic Congress in Katowice, 2015, where Huawei Poland received a prestigious award: “Chinese Business Leader of the Year 2015” (Xinhua News Agency 2015b).

7 Main Legal Challenges Encountered by Huawei in Poland

5G technology could bring enormous progress in terms of speed and reliability of mobile devices, enabling new applications for advanced manufacturing, healthcare systems, and smart cities. The cost of meeting the EU’s 2025 connectivity targets, including 5G coverage in all urban areas, is estimated at €500 billion (European Commission 2019b). Detailed technical standards for 5G have not yet been finalized and post-prototype equipment is expected for 2020 (European Parliament 2019b).

As an EU member, Poland is expected to have an operational 5G network in at least one city by the end of 2020. The Polish Ministry of Digital Affairs has set three specific targets for the next years: adoption of a coherent policy for the implementation of 5G in Poland; coverage of all urban areas and major rail and road transport routes with the 5G network by 2025; designation of a large city where the 5G network will be commercially operational by the end of 2020, that is, city of Łódź (Polish Ministry of Digital Affairs 2018). Furthermore, in August 2019, a bill amending support modalities for the development of telecommunications networks and services was adopted by the Polish Parliament (Sejm 2019). 5G networks are expected to play a central role in achieving a digital transformation of the EU’s economy and society. At the same time, they entail various security risks.

China is expected to be the largest 5G market by 2022 (CCS Insight 2019), but political influences might slow down its advancement. These influences are linked to the situation of the key 5G equipment manufacturer and China's leader in 5G R&D, Huawei (Financial Times 2019). Security concerns over the role of Huawei in 5G developments were voiced by several EU member states, including France, Germany, the UK, and Poland, as well as by the US and Japan, and potential restriction may not only restrict Huawei's sales prospects but also slow down the 5G implementation in general (European Parliament 2019b).

The political debate over the use of Chinese 5G equipment in critical infrastructure in the EU has direct implications for Huawei's business opportunities. While the US, Australia, New Zealand, and Japan moved in the direction of imposing a partial ban on Chinese suppliers, the EU is considering mitigating risks on national levels while avoiding an outright ban (European Parliament 2019a).

Within the EU, Poland offers a unique testbed for 5G deployment. Its specificity is rooted not only in Huawei's strong presence in the country but also in its political and economic situation. The right-wing Law and Justice (PiS) party was strongly supported by voters in two subsequent parliamentary elections (Politico 2019). The ruling party declared the alliance with the US as one of its political priorities, echoing societal preferences (ECFR 2019).

The close relation with the US is expected to impair the business development of Huawei in Poland, especially as the company was stigmatized as posing a significant risk to the US national security (BBC 2019), and accusations that the company has violated the U.S. trade sanctions by selling equipment to Iran (Leskin 2019; Reuters 2019b).

Furthermore, looking to central Europe, the Czech Republic has already barred Huawei from two public tenders for communications systems on security grounds and the Czech government has voiced its concerns over the security risks of Huawei networks solutions (Kundaliya 2019).

In September 2019, Poland and the US signed a joint declaration expressing the intent to strengthen their cooperation on 5G, and endorsed the so-called Prague Proposals, based on the presumption that the future 5G network should be based on free and fair competition, transparency,

and the rule of law (US-Poland Joint Declaration 2019). In addition, both countries have stressed the need for having reliable and trusted suppliers of their 5G networks, that is, suppliers that are not controlled by a foreign government; have a transparent ownership structure; embody an ethical corporate behavior; and are mandated to have transparent corporate practices (US-Poland Joint Declaration 2019). The joint declaration does not explicitly refer to Huawei or other suppliers, but it actually addresses Huawei's business structure, and its alleged ties with the Chinese government illustrated by the special role of a trade union committee in the corporate governance (Balding and Clarke 2019).

In January 2019, a Huawei employee Wang W. was arrested in Poland on spying charges. Contextually, an employee of telecom operator Orange Polska and a former member of the Polish intelligence service—who was in contact with Wang W.—has also been arrested with the same charges. If found guilty, they both might face up to ten years in prison. It should be stressed that the actual investigation is focused on two individuals and not on Huawei itself. Even more, no statement targeting Huawei as a company has been issued by Polish authorities. Huawei was quick in distancing itself from its employee and the company fired him several days after his arrest, on the grounds that the situation was bringing Huawei into disrepute. The former employee denied all accusations, defining them as groundless and hurtful.

News of the arrest received worldwide coverage and have often been interpreted as the first strong EU-originating move against Huawei, and back in Europe, the arrest was regarded as a wake-up call, drawing attention to Huawei's strong position (European Parliament 2019a). The EU is currently working on the establishment of new standards for network governance in order to mitigate security risks. Within this dimension, Poland—as the other EU member states—submitted the results of its national risk assessment to the Commission and the ENISA, and the country is involved in the process of jointly defining the future approaches to 5G networks (European Commission 2019a).

Chinese companies are subject to an increased scrutiny after the adoption of the Chinese Intelligence Law from 2017 that aimed at strengthening and safeguarding national intelligence work and national security and interests (China People's Republic 2017). In particular, Article 7 of the

National Intelligence Law (NIL) mandates both Chinese organizations and citizens to support and cooperate with the national intelligence. In response to the legislation, Huawei commissioned a legal opinion from a Chinese law firm, Zhong Lun, and submitted it to the US Federal Communications Commission in May 2018, with a view to clarify the corporate obligations and mitigate the American concerns (Clarke 2019). However, it is impossible to deny that NIL is imposing on Huawei and other Chinese companies an obligation to cooperate with the Chinese national intelligence under certain conditions, relevant for the national security (Yang 2019), and the NIL applies also to foreign subsidiaries of Chinese companies, as well as to all Chinese citizens, also residing outside of China (Mannheimer Swartling 2019).

It is difficult to predict whether Poland will exclude Huawei from its 5G network. From one side, the above-mentioned arrests, close ties with the US, and political statements seem to move in this direction (Plucinska and Koper 2019a). In 2019, Huawei has already been excluded from procurement procedures by a public Internet supplier NASK (Telecompaper 2019b).

At the same time, the company has recently demonstrated its commitment to become a trustworthy partner of the Polish government (Reuters 2019a) and to convince authorities that its technology has the potential to improve the connectivity without posing threats to the Polish security. In April 2019, Huawei established its cybersecurity transparency center in Brussels, stressing the need for investments in improving security (Huawei 2019c) and offered to launch a similar cybersecurity center in Poland (Plucinska and Koper 2019c). Recent news seems to confirm that Huawei will not be excluded from the 5G competition (Plucinska and Koper 2019b). Furthermore, Huawei committed to invest USD 10 million in developing its technological ecosystem in Poland (Huawei 2019d).

A potential ban of Huawei 5G technologies is legally conceivable based on an alleged threat to the national security. However, faced with such developments, Huawei might decide to appeal the decision, citing the case of selective targeting of an individual company.

Furthermore, escalation of this conflict would result in political and economic repercussions for Poland. The exclusion of Huawei from the Polish 5G infrastructure would raise costs for mobile operators, with

their continuous dependence on Huawei as equipment supplier. In 2018, several Polish mobile operators initiated 5G network pilots based on Huawei's solutions. As a matter of fact, the position of some mobile operators in the Polish market would be untenable without access to Huawei's technology. Furthermore, other sales activities of Huawei—which include data centers and consumer electronics—would risk being affected, if Huawei decided to disinvest from Poland and if the company was not in a position to deploy its 5G solutions. A potential Huawei ban would also impair the consumer welfare, negatively impacting the quality (also in the sense of portfolio and variety) and prices of consumer electronics products and services, with other suppliers unable to offer prices comparable to those proposed by Huawei (Koper 2019).

Exploring alternatives to Huawei's dependence, major telecommunications companies in Poland joined hands with public sector bodies and, signing a letter of intent to establish a special purpose vehicle "Polish 5G," aimed at pooling resources to speed up the deployment of the new technology (Paszczka 2019). As of November 2019, Poland has not yet initiated public tenders to allocate its 5G spectrum licenses, but the Office of Electronic Communication, main regulatory body overseeing the telecommunication market, has published preparatory studies related to the upcoming tender (UKE 2019), and in 2020, 5G developments might accelerate in Poland.

8 Conclusions

As of 2019, Huawei was one of key players in the smartphone market in Poland and a critical provider of supercomputing infrastructure. Huawei entered the country in 2004 and within ten years, it managed to develop a strong market position, holding by 2016 over 20% of the local smartphone market.

Following the findings on the importance of the non-market strategy (Baron 1995), Huawei established its activities in Poland gradually. The company initially started with a rather cautious approach to the market, but it gradually strengthened its presence thanks to agreements with local distributors, allowing the company to establish sizeable local operations

in Poland and to leverage its relations with key telecom operators. Its compliance with the demands of local stakeholders led to establishment of close relations with other market players that helped Huawei to acquire legitimacy on the Polish market (Mellahi et al. 2016). Huawei's partnerships resulted in its engagement in developing pioneering technical deployments in Poland, including the establishment of LTE networks of multiple operators. Moreover, they allowed collaboration with leading academic institutions including the University of Warsaw and the Poznan Supercomputing and Networking Center, and in both cases led to establishing joint science-industry innovation centers.

Huawei also focused on establishing good relations with public opinion and media thanks to promotional campaigns that benefited from celebrity endorsements, including Robert Lewandowski, the Polish national football team captain. This helped the company to strengthen its position, legitimacy, and even further improve performance. Thanks to carefully designed technical interventions and standardization initiatives and with the help of Chinese government that cultivated good relations with Polish government, Huawei succeeded in establishing its presence in Poland.

Projects with telecom operators cemented Huawei's presence in the high-end market in Poland and thus Huawei declared its readiness to deliver 5G network infrastructures as well, awaiting the decisions of Polish telecom operators and regulatory bodies. Huawei seemed to be a natural partner of Polish telecoms for the deployment and maintenance of the 5G infrastructure. However, in 2019, legal developments linked to alleged security threats jeopardized the economic prospects for Huawei. The arrest of a key employee of Huawei Poland represented a potential setback in the local expansion of Huawei's business. Possibly, a potential possible exclusion of Huawei from the Polish 5G market would not only harm the telecom operators that are already relying on Huawei's technology. It would also likely lead to an increase in the costs of 5G technology deployment and thus decrease the overall consumer welfare. Faced with these adverse conditions, Huawei, following his experience with the Polish market, planned a series of investments and policy measures to increase the confidence of the Polish government and other end users.

Poland as member of the EU can adopt various regulatory measures, aimed at controlling and regulating activities of large technology suppliers, pushing for better transparency of operations, and they can prove more effective than a generalized ban on using products from a specific supplier. Huawei's current market position and the attractiveness of the Polish market will certainly motivate the company to carefully consider the actions of regulators and establish an open and transparent dialogue with policy makers. However, the most recent political statements by the Polish government—through the Minister of Digital Affairs, Marek Zagórski—seem to go in the direction of closure, highlighting the need to increase security measures concerning the 5G network, going beyond what has been decreed at EU level and aligning as much as possible with the US position (Cerulus and Kayali 2020). In order to remain a relevant player in the Polish market, Huawei will therefore have to prioritize its non-market strategy and make an extra-effort not only to demonstrate the beneficial effects that its presence in the Polish market would induce but also to prove an increase in its protection barriers against possible security threats within the 5G network. In view of the statements of the Polish government, it also seems essential that Huawei manages its strategy in the US in conjunction with its strategy in Poland. As we have seen, the Polish strategy is strictly linked with that of the US. To take this reasoning to extremes, Poland seems, in the view of the authors, ready to face a systematic economic disadvantage—by excluding or limiting Huawei's role from its domestic market—in order to maintain its pro-American strategy, and Huawei perhaps has realized this too late.

Note

1. Quantitative data about sales and market shares presented in this section are based on Euromonitor's Passport database tables of retail volumes and company shares for mobile phones and portable consumer electronics (Euromonitor 2019) and were transformed through authors' own calculations.

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5

Huawei in Central and Eastern Europe: Strategic Partner or Potential Threat?

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1 Introduction

The change of Central and Eastern European (CEE) countries from centrally planned to market economies resulted in increasing inflows of foreign direct investment (FDI) to these transition countries. During the

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transition, the region went through radical economic changes, which had been largely induced by foreign capital. Foreign multinationals realized significant investment projects in CEE and established their own production networks. Although the majority of investors arrived from Western Europe, the first phase of inward Asian FDI came also right after the transition, even if Japanese and Korean companies indicated their willingness of investing in the CEE region already before the fall of the Iron Curtain. The second phase came after the New Millennium, when the Chinese government initiated the “go global” policy, which was aimed at encouraging domestic companies to become globally competitive.

The CEE region indeed plays a key role in Chinese companies’ plans as the gateway to Europe. At the same time, CEE’s appetite for investment is still significant and China is offering an alternative source. Main Chinese companies targeting CEE countries are interested primarily in telecommunication, electronics, chemical industry, and transportation. Huawei is one of the biggest investors among them and certainly the only one that has branches and representative offices almost all over the region.

This chapter will analyze Huawei’s CEE operations by focusing on the company’s activities in Poland, Hungary, and Romania, as these three countries are among the most important European bases for Huawei in this region. A descriptive approach will be used to identify the most important characteristics of Huawei’s operations, how it cooperates with host country institutions, relates to competitors and how employment relations look like. These questions will be examined by relying on firm-level data available from desk research and interviews with current and former Huawei managers. The chapter will also show CEE countries’ approach toward and engagement with the company before and after the Huawei security scandal. The authors will examine how China, Huawei, and its growing presence are perceived by the media in the analyzed countries, by using media content analysis.

2 Theoretical Basis and Review of the Literature: Why the CEE Region?

The transformation of CEE countries from centrally planned to market economies has generated significant research on FDI flows to these transition countries (Carstensen and Toubal 2004; Janicki and Wunnava 2004). Investors, mainly from EU15 countries, were attracted by relatively low unit labor costs, market size, openness to trade, and proximity (Bevan and Estrin 2004; Clausing and Dorobantu 2005; Janicki and Wunnava 2004). Diverse institutional factors influenced inward FDI but the prospects of CEE countries economic integration with the European Union (EU) increased FDI inflows in almost all countries (Bevan and Estrin 2004).

Developed countries multinational enterprises (MNEs)' motivations are, however, often different from those of emerging countries. For example, Hanemann (2013) points out commercial reasons behind most investments: the acquisition of rich-world brands and technology to increase competitiveness, money-saving by moving higher value-added activities in countries where regulatory frameworks are more developed. According to McCaleb and Szunomár (2017), the main structural/macroeconomic pull factors—that is, host country determinants that can “pull” Chinese companies to the CEE region—are market access, low factor costs, qualification and/or cost of labor force, access to global value chains, company-level relations, and the high level of technology. The most important institutional pull factors are international and regional investment and trade agreements, free trade agreements of the host country (or that of the EU), host government policies, tax incentives, residence visa, institutions such as banks, government-related investment promotion agencies, institutional stability (intellectual property rights/IPR protection, product safety standards), public procurement processes, and also Chinese diaspora. In addition to these, political relations might also play a role.

Although various Chinese companies have been operating in the CEE region since the early 2000s, they are still facing challenges. Due to the geographical, cultural, and institutional distance between the home and

host countries, Chinese companies—like all other MNEs—suffer from the “liability of foreignness” (Kostova and Zaheer 1999; Hymer 1976), while they also suffer from—as Amendolagine and Rabellotti (2017) calls it—the “liability of emergingness,” which is related to their emerging market origin, reducing their legitimacy in advanced markets (Madhok and Keyhani 2012; Ramachandran and Pant 2010). The case of Huawei is even more complex: in addition to these above-mentioned challenges, they also have to face national security concerns raised by most of the European states (Muralidhaara and Faheem 2019).

3 Methodology

When it comes to Huawei’s activities in the selected CEE countries, the paper uses two sources of data and information. On one hand, we rely on the information gathered from Amadeus database for assessing Huawei’s operations. This dataset is, however, not always complete and up to date. Thus, on the other hand, our analysis is based on interviews with the representatives of Huawei’s affiliates in Hungary and Poland. The interviews were conducted by the authors between December 2016 and April 2019 (one interview in Poland, four interviews in Hungary). For the case study of Romania, it was resorted to interviews with experts from Huawei, published in mass media.

For the media content analysis that is a non-intrusive research method that allows examination of a wide range of data over an extensive period to identify popular discourses and their likely meaning (Macnamara 2005), we collected approximately 150 Hungarian, Romanian, and Polish articles (written in local languages) between September 2018 and September 2019, where Huawei is mentioned. We collected not only those articles focusing on the respective CEE market but also those centered on Huawei’s global operations (since a more critical opinion is sometimes easier to formulate when it happens to other countries, not us). We tried to detect media sources usually supporting the government as well as supporting its opposition to make our research more balanced. For the research, we selected 15–20 of the most widely read media sources

Table 5.1 List of media sources used for the media content analysis in Poland, Hungary, and Romania

	Poland	Hungary	Romania
Printed dailies or weeklies	Wprost, Gazeta Wyborcza; Polityka; Fakt; Polska—The Times	Magyar Nemzet, Magyar Idők, Népszava, HVG, Magyar Narancs; Világgazdaság	Adevarul; Bursa; Capital; Ziarul Financiar
Online media sources	businessinsider.com.pl ; wprost.pl ; wyborcza.pl ; wyborcza.biz ; fakt.pl ; money.pl ; polityka.pl ; parkiet.com ; tvp.info ; wiadomosci.dziennik.pl ; wirtualnemedial.pl ; dorzczy.pl ; natemat.pl ; polskatimes.pl ; wiadomosci.wp.pl ; aszdziennik.pl	Index.hu ; 444.hu , Direkt36.hu ; Origo ; 24.hu ; Euronews (hu.euronews.com); Délvilág, Kisalföld, Demokrata.hu ; Privátbankár; Mfor.hu ; Prtforlio.hu ; Piac és profit	Agerpres (national news agency); Forbes Romania; Profit.ro ; Economiesociala.net ; Business Review; Hotnews
Other sources	Official website of Huawei Poland; Official website of the Chancellery of the Prime Minister of Poland	Website of the Hungarian government; the website of University of Győr; Official website of Huawei Hungary	Website of the Presidential Administration; Financial Times; Official website of Huawei Romania

in all three countries, which have a nationwide coverage: dailies, weeklies with a political or economic focus as well as online media platforms. We investigated both mainstream media and tabloids, those that are public as well as privately owned (Table 5.1).

4 Huawei's Activities in Poland, Hungary, and Romania

Huawei's strategy in CEE follows the company's strategy adopted at the beginning of its operations on the Chinese market to start with areas not yet penetrated by global competitors. In China, the first target areas were small cities, towns, and villages, while, in CEE, Huawei started with only

a few projects without officially establishing offices, which were set up only later when business in a given country became more mature (more projects, clients, and cooperation partners). In addition, as our interviewees confirmed, industry antecedents (Nokia, Philips, etc.), successful Chinese investors in the region (for example Hisense in Hungary) and already-existing necessary infrastructure also played a role in the company's investment decisions.

The company opened its first subsidiary in Warsaw, Poland, in 2004; then, in 2005, Huawei established subsidiaries in Hungary, the Czech Republic, Ukraine, and Latvia. In the following years, it opened further subsidiaries in the region. According to the interview with one of the Huawei representatives in CEE, the company has 25 big and small offices in the region, which differentiates it from competitors such as Ericsson or Nokia. Instead of choosing only one or a few locations per region, Huawei has many offices in CEE since it “focuses on customers, providing excellent customer care that requires engineers in each country” (Huawei interview, Hungary, September 2018).

In *Poland*, Huawei's Warsaw subsidiary employs approximately 1000 employees. The company's Poland division specializes in sales and marketing for CEE and Nordic countries. Since 2008, Warsaw has been the company's headquarters for CEE and Scandinavia. Following the centralized model, Huawei CEE & Nordic controls and manages all country offices in the two regions, with all projects having to be approved by the Warsaw center (McCaleb and Szunomár 2017).

Huawei has already invested over 5 billion PLN (Polish zloty) in Poland and plans to invest another 2 billion PLN in the next three years (Wyborcza.biz 2019). Poland is one of the ten strategic markets worldwide for Huawei, which is why the company plans significant investments to develop the brand ecosystem in Poland. In the first phase of the investment, Huawei aims to spend \$10 million on a partnership program encouraging developers and application owners to be present in the ecosystem, with an emphasis on the Huawei AppGallery app store (Wyborcza.biz 2019). Plans for investments are very ambitious and include opening a high-tech R&D center in Warsaw that would develop mobile software as well as other technology solutions for Huawei products used globally. The company plans to employ 300–500 specialists in the R&D center in

the next three years. In addition, in October 2019 Jefferon Zhang, the head of Huawei CBG (Consumer Business Group) Poland, announced that the company plans to invest \$10 million to develop the brand ecosystem in Poland using Huawei Mobile Services (HMS).

Huawei Poland cooperates with all major telecommunications operators in the field of transmission networks and access devices (modems, routers). The company's growth on the Polish market illustrates the rapid expansion: as of April 2018, Huawei's share of the Polish market for smartphones amounted to 33.4% (Money.pl 2019).

Huawei is the second biggest Chinese investor in *Hungary*, and the biggest among Chinese greenfield investors. The company arrived in the country in 2005, while its European Supply Center started its operations in 2009. It has invested USD 1.2 billion since 2005 according to company figures. The Centre is Huawei's second-biggest supply center in the world, the biggest production base outside China—with its enlarged warehouse capacity of 30,000 square meters, launching 3000 trucks each month—and it serves as a production and logistics center for 55 countries in Europe, North and West Africa, Russia, Central Asia, and the Middle East. According to Chinese diplomats, the creation of the logistic center in Hungary shows that Chinese-funded enterprises were confident about Hungary and its investment environment even after the global financial crisis and its impacts on the country (McCaleb and Szunomár 2017).

As we have learned during the interviews, the company employs around 330 people directly (white-collar workers) out of whom 60% are Hungarian and the rest are Chinese nationals (on Hungarian work permits). However, indirectly—as several activities such as assembly or logistics are outsourced to other companies—Huawei Hungary is also responsible for 2500–2700 employees (blue-collar workers at Foxconn, Flextronics, DHL, etc.). It means that Huawei Hungary employs around 3000 people in total but it has direct contract with just over 10% of it. The company has its head office in Budapest (in two locations), two factory units in Komárom (operated by Foxconn) and Pécs (operated by Flextronics) where assembling activities take place, and a logistic center in Biatorbágy (operated by DHL) for transportation and storage activities, including packaging, customs services, road transportation and

ocean freight forwarding of the products. Huawei serves all the top mobile operators—including Telenor, Vodafone, and Deutsche Telekom—in the country, that is, actually it serves 70% of Hungarian people.

Huawei Hungary's operations are divided into three categories: (1) consumer devices (mostly smartphones), (2) carrier business (telecommunication projects) and (3) enterprise business (data & storage). Initially, the main activity of the company in CEE was the so-called carrier business, that is, to serve the local telecom operators, while the other two divisions have been created later on. Consumer devices and enterprise business divisions are characterized by a much lower turnover compared to carrier business although their significance is increasing in the past few years. Huawei provided TV and fiber networks for Hungarian Telekom (owned by Deutsche Telekom), 3G as well as 4G mobile networks for Vodafone as well as 112 emergency call systems and LTE 450 network equipment for the state-owned telecommunication company MVM NET.

On the *Romanian telecom market*, Huawei started its operations in 2003, just three years after the official entrance on the European market, while Huawei Romania was founded in 2007, the year when Romania became a member of the EU. In less than two decades, the subsidiary has become one of the largest suppliers of telecom equipment, smartphones, and services on the Romanian market. It has established its local offices in Bucharest and Timisoara and is planning to extend to other cities, such as Cluj-Napoca. Huawei still does not have any production unit or research center in Romania, but instead it has two global services centers in Bucharest: a European Joint Accounting Center (Accounting Shared Service Center, ASSC) since 2006 (Deng 2019), offering financial services for all the European Huawei subsidiaries and a Global Services Center (GSC) since 2012 (Huawei 2019).

The initial GSC was extended in 2017, the new GSC being “a unique one-stop multi-service platform,” consisting of four units: technical support, remote delivery, network operation, and marketing-channel support (Huawei 2017). Besides, the Romanian IT experts' technical and linguistic talent, it is worth noting that Deng Huanhuan, the head of ASSC, particularly prizes the skills of the Romanian bookkeepers and

financial experts: “they are hard working, are responsible and have a very solid work ethic.” In her opinion, this strength compensates for a relevant weakness of the investment climate in Romania, namely “the high level of unpredictability in public policies,” the frequent changes of the Tax Code, as well as the high fiscal burden on the workforce, reflected by the “burden of individual taxation, income tax and social insurance,” which is above the EU average (Deng 2019).

Between 2009 and 2018, the number of employees multiplied from 267 to over 1000 according to the Amadeus database. However, according to Huawei data, at the end of 2018, Huawei Romania had 2053 employees, of which 81% were Romanians (Agerpres 2019; Dragan 2019). As stated by George Zhang, CEO of Huawei Romania, the Chinese branch has directly and indirectly created 7100 jobs, of which 6700 are occupied by Romanians (Brindusescu 2019). According to Zhang (2019), in Romania, Huawei has the largest workforce in Europe, after Germany, it is the largest taxpayer in the Romanian Information Technology and Communications (IT&C) sector and invested more than EUR 1 billion, including taxes and labor costs. The telecommunication products and services offered by Huawei Romania currently reach over 72% of the population of Romania, at the same time serving over 35 European countries that have devices or use Huawei services (Dragan 2019). Huawei has the largest market share in the telecommunications segment in Romania and is the second player on the Romanian smartphone market, similar to Apple (20%) but far behind Samsung. Motivated by these results, it intends to open new official stores in Cluj-Napoca and Timisoara, in addition to its two already-established stores in Bucharest.

Huawei became especially active in Hungary, Romania, and Poland in recent years by engaging in various initiatives, such as *talent development programs* as well as in establishing *cooperation with universities*. Quality management, marketing, recruitment, workforce, and services represent priorities of the company. Having in mind the high demand for qualified personnel, the company invests a lot in training future employees, in partnership with the top clients and universities all over the region (Bursa 2019a). For instance, the “Seeds for the Future” program—that provides the possibility for university students to study the most advanced mobile technology in Huawei’s Shenzhen HQ each year—started in 2014 and

the Huawei Authorized Information and Network Academy (HAINA) program—that authorizes universities and colleges to deliver Huawei Certification courses to their students—has been set up in all the three analyzed countries.

With an investment of USD 100,000, Huawei has launched a training center for networking, with a capacity for 40 people at the Gheorghe Asachi Technical University, in Iași, Romania (Dragan 2019). Similarly, Huawei has been in close collaboration with the Poznań University of Technology, Poland. Moreover, Huawei was a supplier and consultant for the Poznań Supercomputing and Networking Center (PSNC) and the cooperation continues in the form of a joint research innovation center that was inaugurated at the beginning of 2016. Huawei will also provide the equipment for a laboratory at the Faculty of Electronics and Telecommunications, which will give students and university staff the opportunity to acquire knowledge and skills necessary to design, configure, and run modern computer networks (Nowicka 2019). In Hungary, Huawei has invested around USD 1 million in education since 2011. Huawei Laboratory and Academy was established at University of István Széchenyi in Győr in 2016 to contribute to higher education in Hungary, while Huawei also supports local talent programs, such as “The innovative leaders of tomorrow,” which was a five-year term scholarship program between 2011 and 2015.

The cooperation has also been strong between Huawei and some of the governments of the analyzed CEE countries. In Hungary, the first investment negotiations have greatly enhanced by the government, but the relationship remained strong later, too. Although the Hungarian government recorded the establishment of Huawei’s European Supply Center in Hungary as its own success, in fact corporate considerations also played a role.

On April 18, 2013, the Hungarian government and Huawei signed a strategic partnership agreement in Beijing to reinforce the company’s long-term commitment to Hungary and to stimulate economic growth and enhance the competitiveness of Hungarian businesses. These types of agreements offer various incentives such as R&D tax incentive system, as well as predictable and transparent discounts of special taxes. But the government is represented in occasions like the official opening ceremony

for the European Logistic Center (December 3, 2013, Biatorbágy), where the Prime Minister of Hungary took part together with the Ambassador of the People's Republic of China (PRC); or when Huawei Technologies celebrated its 10th jubilee presence in Hungary (May 21, 2015, Budapest), the keynote speech was held by the Hungarian the Minister of National Economy.

In 2013, the Romanian Ministry of Information Society signed a memorandum of understanding (MoU) for “strategic cooperation” with Huawei under a Social Democrat-led government. Nevertheless, most of its provisions have not been implemented due to the sensitivities under the NATO framework linked to the US stance toward the Chinese technology giant. In our opinion, the new Romanian government led by the National Liberal Party is inclined to have a tougher attitude toward Huawei, in spite of the lack of any public evidences that it represents a cybersecurity threat.

5 The Perception of Huawei in the Three Analyzed Countries

Although the CEE region has been very keen on building the 5G infrastructure and has been willing to collaborate with Huawei on this matter, the recent pressure from the US has had influence on several CEE countries' decisions in this regard. In 2019, some CEE countries, such as Estonia, Romania, and Poland signed a memorandum of understanding with the US to strengthen cooperation on 5G security and development, restricting the use of the Chinese mobile technology company Huawei's products. Other countries, such as Lithuania have taken a more careful approach, saying that decisions on Huawei technologies must be made at NATO and EU levels, while others, such as Latvia, Slovakia, or Hungary decided to continue to work with Huawei as also other European companies—such as Deutsche Telekom, Elisa, Orange and Vodafone—do so. Although the Czech cyber security agency issued an unprecedented warning against Huawei last year, following the announcement of the German government that did not exclude Huawei, the Czech Republic will likely

to reconsider its stance, despite US pressure. Recently, Hungarian Ministry of Foreign Affairs announced that Huawei will build its 5G wireless network. Peter Sijarto, the Minister of Foreign Affairs and Trade emphasized that Huawei will work in close partnership with the British Vodafone and Deutsche Telekom.

It seems that although, on the political level, the majority of CEE countries may not want to give China more leverage, on the business level, they actually do. The reason is simple: Huawei is ahead in developing the 5G technology, there is no stronger, more prepared and cheaper player on the market, they are willing to invest, and other companies from the EU do not offer better solutions. While CEE governments' stance doesn't necessarily reflect the (shift in) CEE societies' attitude toward Huawei, we decided to analyze how CEE media perceived and perceives Huawei in order to show CEE countries' approach toward and engagement with the company before and after the Huawei security scandal.

5.1 Perception of Huawei in Poland

Huawei Technologies Co. Ltd. featured in the Polish media in the analyzed period predominantly against the backdrop of the Belt and Road Initiative (BRI) and rivalry between the US and the People's Republic of China. US President Donald Trump strives to achieve balance in trade exchange between his country and China. Poland, as a regional ally of the US, plays a minor role in the conflict in the pro-American camp. Poland is located in a strategic place on the BRI route, which makes Chinese politicians and investors perceive Poland as quite an important regional geopolitical player. Polish mainstream media ran an extensive coverage of the alleged espionage scandals with the Chinese company in the background. The tone of most of the commentaries was rather critical toward China and its international policy. The criticism of China and Huawei was especially strong in pro-government conservative media, which support Polish pro-American stance in international relations.

One of the notable cases that drew a lot of media attention in relation to Huawei was the detention of Meng Wanzhou, the deputy chairwoman

of the board and chief financial officer of Huawei, and daughter of its founder Ren Zhengfei, for allegedly breaking US-imposed bans on dealing with Iran. In the news stories released just after the detention, facts were presented objectively. Financial commentators focused on the impact of this case on the stock market, whereas political analysts expressed concerns about escalating the Sino-American animosity and noticed a relationship between the detention and imposing US tariffs on Chinese products. The release of Meng Wanzhou on bail was also widely covered by the Polish media. Some Polish media covered Meng Wangzhou's detention scandal in a more elaborate way. Some commentators described Canada as the country that can suffer more than others because of the Chinese countersanctions. When a few days after Wangzhou's detention a Canadian citizen Michael Spavor was detained in China, a Polish journalist Maria Kruczkowska interpreted it as an act of vengeance and described it as "China taking another hostage in its conflict with Canada over Huawei's CFO."

Technology-oriented media focused in their coverage of this case on the implications of the detention and the accusation of spying on the Polish technology market. Commentators pointed out that Polish consumers had not refrained from buying Huawei devices so far, but in the future the scandal may damage the reputation of the company. A technology journalist Marcin Lulek wrote a strongly anti-Chinese, derogatory article in which he called Huawei the "abode of spies and communists." He expressed concern over the fact that other countries had banned Huawei products and Poland had not.

Another case widely covered by the Polish media in relation to Huawei investments was the espionage scandal, but this time it took place in Poland. On January 11, 2019, the Polish Internal Security Agency (pl. Agencja Bezpieczeństwa Wewnętrznego, ABW) detained Wang Weijing, one of the directors of the Polish branch of Huawei, and Piotr D., a Polish telecommunications worker specialising in the field of cybersecurity and former ABW officer, and accused them of collecting intelligence against the Republic of Poland and spying for the People's Republic of China. The Chinese embassy stood up for Wang Weijing and called for protecting him against any mistreatment, whereas the international board of Huawei distanced itself from their employee. Following these events,

the Polish government decided to stop using Huawei phones as a result of the alleged espionage. The conservative pro-government weekly *Do Rzeczy* perceived the detention of Huawei director as a chance of rebuilding the Polish electronic industry. The espionage accusations were treated seriously by Polish journalists. Joachim Snoch, a technology journalist, described the detention in detail, presented the chronology of events, and attempted to put it in the wider context of the tariff war between the US and China. In his opinion, Poland became a battleground of two geopolitical giants and the events in Poland were the direct effects of that war on a global scale. He also analyzed the influence of the scandal on the lives of Polish citizens (according to him, this role is relatively minor).

Following the detentions, Huawei was widely criticized by the Polish media due to the allegations of the company being involved in Chinese intelligence. The media stipulated that using Huawei products may be considered not secure. The revelation that a prominent Polish politician and a minister of the ruling Law and Justice party (pl. Prawo i Sprawiedliwość) had received a Huawei phone from the Chinese embassy as a gift spurred a minor scandal. This event drew attention of a popular satirical parody website ASZDZIENNIK. A prominent Polish geopolitical analyst Jacek Bartosiak was interviewed by the RMF FM journalist Bogdan Zalewski on the impact of the Sino-US tariff war on the global international order. In the interview, he commented widely on the role of the international smear campaign against Huawei and the sanctions imposed on its products.

When US Vice President Mike Pence came to Poland to participate in the ceremony commemorating the 80th anniversary of the outbreak of World War II (September 1st, 2019) he also signed the 5G Security Agreement with the Polish prime minister. As noted by many political commentators, the deal was signed amid the ongoing global anti-Huawei campaign. The declaration mentioned neither China nor Huawei and included abstract statements: “We believe that all countries must ensure that only trusted and reliable suppliers participate in our networks to protect them from unauthorized access or interference.” However, having in mind the international context, the declaration was commonly perceived as a ban of Huawei from the Polish 5G market and as a price that Poland had to pay for lifting the US visa requirement for Polish citizens.

5.2 Perception of Huawei in Romania

Even if Romania does not have an official position toward the ongoing US-China trade war at large, in August 2019, the Romanian President, a strong supporter of the National Liberal Party, expressed for the first time a clear position as regards 5G. The Joint Statement by US President Donald J. Trump and Romanian President Iohannis of August 20, 2019, issued on the occasion of the latter's visit to the US, underlines that Romania is "seeking to avoid the security risks that accompany Chinese investments in 5G telecommunications networks" (Presidential Administration 2019). Huawei Romania is already on the blacklist of entities that cannot run businesses with American companies in the absence of the US government's approval.

The Joint Statement was accompanied by an MoU between the governments of Romania and the US regarding the 5G technology. According to the press statement related to the joint declaration, the provisions regarding 5G "do not refer to a particular company" but only "clarify some criteria of transparency, compatibility with the rule of law and so on" (Presidential Administration 2019). The Memorandum was disclosed in early November 2019 and it includes the provisions that 5G network providers must undergo a rigorous evaluation, and the protection of next-generation communications networks from disruption or manipulation and the privacy of individual citizens' freedoms are vital (Bursa 2019a). On September 5, 2019, the US Ambassador to the EU, Gordon Sondland, visited Romania and encouraged a "Huawei free" Romania. The company's reactions were firm. In an interview with the *Adevarul* newspaper, the actual CEO of Huawei Romania, George Zhang, underlined that 5G should be a technical topic, not a political one (Brindusescu 2019). Other newspaper articles emphasize that the company is considering the possibility of suing our country if the authorities limit its operation on the local market (Toader 2019b), as "the denigration and defamation of a single player in a market, its isolation, is illegal" (Ionescu and Vasilache 2019). At the same time, Radoslaw Kedzia, Huawei Vice President of the Central and Eastern European Network (CEEN), underscores that the technology is politicized, accusations are groundless, and

the lack of dialogue between the Romanian authorities and a powerful company and important taxpayer in Romania are “a surprise” (Bursa 2019b).

In Romanian mass media are present also opinion articles and articles taken from international press. Some of them are very critical as regards Huawei from the perspective of security issues and links to the Chinese government (e.g. Ionescu-Heroiu 2019), in line with articles from the international sources describing the Chinese company as “dangerously dominant” (Stacey 2019). At the same time, many are neutral and there are also own presentations by Huawei (Agerpres 2019; Dragan 2019) or interviews with managers of Huawei Romania, for instance with Zachary Jianglin Chao, Country Manager CBG Romania (Dorobantu 2019) and Vlad Doicaru, director of the Enterprise Business Group, Huawei Technologies Romania (Toader 2019a), focused on the company’s strengths.

In contrast to other topics regarding China, where Romanian mass media is in general critical, news on Huawei are more balanced, presented in a neutral manner and in some cases even in a positive and supportive tone. Old and new mass media actors alike follow in general three threads of the story: first, the facts (accusations from the US, sanctions, 5G ban, inclusion of Huawei Romania on the “black list” of entities that cannot do business in the US without permission of the American authorities); second, the importance of the Chinese company for the global and local market; third, the own position of the Chinese company against the accusations. For instance, in an article of Profit.ro (Dragu 2019), after facts are presented and it is stressed the importance of Huawei Technologies, the article goes further, by underlining that the US authorities have invoked reasons for national security, but have not provided any evidence in this regard. In the final part of the article is included its own position of the Chinese company, namely Huawei representatives have repeatedly rejected Washington’s allegations of poor security of its equipment in the face of possible espionage access, saying they are no less secure compared to other manufacturers’ equipment.

It should be also noticed that at the national Debate on the implementation of 5G technology in Romania (November 21, 2019), the representatives of the civil society have not been invited. Consequently, on

Internet has been published a petition underlining on the one hand that organizers do not respect people's right to information and on the other hand, that the radiation generated by the 5G systems affect the health and natural environment. Even if this is not a direct action against Huawei, it underlines the complexity of the debate on the 5G ([Economiesociala.net 2019](#)).

5.3 Perception of Huawei in Hungary

Hungary has been the first to openly embrace Huawei and continues to support its presence in the country. In November 2018, at a time when the Huawei scandal had already broken out with various reactions from all over the world, the Hungarian government stood by the company and struck a cooperation agreement, which invited Huawei to improve the country's broadband services ([Peragovics 2019](#)). As the Hungarian Minister of Innovation and Technology put it, the Hungarian government expects "Huawei to begin building a home 5G network soon" ([Emerging Europe 2018](#)). The Orbán government indeed remained resilient in its pro-Chinese position, defying Washington's calls to constrain Huawei's footprint in the country for reasons of national security. The prime minister made this point clear at a press conference: "The Hungarian government sees no security threat in Huawei" and "Huawei will not be excluded from any domestic development projects" ([Origo.hu 2019](#)). A few weeks later, the Minister of Foreign Affairs reiterated a similar position at a joint press conference with Mike Pompeo and essentially deflected attention away from the issue, emphasizing that its biggest procurers are actually British and German companies and he sees no reason for a re-evaluation of the strategic partnership agreement with the Chinese company ([Euronews.com 2019](#)). Not surprisingly, the message was clear and did not go unnoticed by Huawei. As Yanmin Wang, President CEE & Nordic Region for Huawei's Consumer Business Group, stressed in an interview, the success of the Chinese company shows that "we are good friends of Hungary, and we want to be even better" ([Nagy and Kerner 2019](#)).

Huawei featured in the Hungarian media several times in the analyzed period, both in pro- and anti-government media sources. The Hungarian case is special in a way, since the relation to China is characterized by a long-term political support as over the past seventeen years, the Hungarian governments—regardless of political orientation—has committed themselves to develop relations with China. Although the Hungarian political arena is rather divided, Sino-Hungarian relations enjoy a privileged position on all major parties' agenda. No matter how fierce the domestic political debates are, none of the parties question the importance of China. As a result, the Hungarian media discourse on China seems to be one-sided as it focuses overwhelmingly on economic data and developments, while topics like political values, human rights, minorities, or democracy are almost completely missing from the agenda. On the other hand, this media discourse is strongly politicized: the assessment of Hungarian-Chinese relations in the media is strongly influenced by the political attitude of the given media source toward the government (Matura 2018).

Majority of the articles mentioning the word “Huawei” have dealt with the rivalry between the US and the People's Republic of China and mentioned Huawei as a side story of the trade war or have dealt specifically with the security scandal. Here the Hungarian journalists tried to summarize aims and complaints on both sides, presented in a balanced and neutral manner. However, almost none of these articles mentioned Hungary or referred to potential risks that Huawei's Hungarian engagement could pose to the country. One of the few exceptions is the article of *Népszava* (printed version, May 21, 2019), a left-wing, government-critical daily newspaper that published a piece titled “Fire order on Huawei.” This article focused on the relation between Huawei and the US but dedicated one paragraph to Huawei in Hungary, where they interviewed the PR manager of the company who commented reassuringly about the company's prospects, without any reference to the possible negative consequences. While anti-government media remained neutral, the Pro-government newspapers have often published supportive stories such as a one-page article on how Huawei's CFO sued the Canadian state (printed version, *Magyar Hírlap*, March 5, 2019) or that Huawei also sued the US (printed version, *Magyar Hírlap*, March 9,

2019). We could find more critical arguments in the electronic news portals, for example, some articles on index.hu mentions the correlation between the Hungarian government's positive attitude toward China and Huawei's unwavering position in the country (Tóth 2019).

Those articles that deal specifically with the relationship between Huawei and Hungary typically focus on the results and opportunities: the number of Hungarians the company employs, the 40 billion HUF that the company has paid to the Hungarian budget over the past five years or the potentials of 5G applications' spread in Hungary. Here, again, electronic media proves to be more critical. Index.hu writes about how Huawei increased its sales in Hungary by more than 40% last year while other countries were considering limiting the company (Bruckner 2019). The investigative news platform direkt36.hu goes even further with its article titled "It does it in silence, but the Hungarian government is already involved in the Huawei War" (Direkt36.hu 2019), where it digs deeper into the strong relationship between the Hungarian institutions and Huawei, stating, for example, that during an open public procurement process, even the Hungarian Counter Terrorism Centre (TEK) purchased Huawei hotspots.

6 Conclusion

Huawei Technologies Co. Ltd., the largest telecommunications equipment manufacturer in the world, is already one of the most important Chinese investors in the CEE region. Analyzing their investment motivations, it can be assessed that government support on CEE side played a key role between 2003 and 2006, but later development was based on enterprise-level relations. Greater investment activity occurred four-five years after the company's market entry. It may have two reasons: first, the development of Huawei's international competitiveness; second, the obtainment of the necessary market knowledge in CEE markets resulted in enhanced investment activity. EU membership also played an important role in the development of the relations between Huawei and the respective CEE countries, out of which Poland, Romania, and Hungary

stands out as the most important destinations (regional, accounting, service, and supply centers, respectively).

Based on interviews with Huawei managers and other telecommunication experts, we can conclude that the CEE market has an increasing importance for the telecommunication giant Huawei, although this growing interest has more to do with Huawei's global strategy than with the CEE market's attractiveness on its own. The cooperation with the major European operators (e.g., Deutsche Telekom, Vodafone, and Telenor) within the region gives a good opportunity for the company to prove its capabilities, so from a certain point of view Huawei uses the CEE region as a springboard to or a reference for its future European expansion.

Perceptions of Huawei have changed somewhat in all the analyzed countries after the Huawei security scandal, but the degree of this shift varied from country to country. The Polish reaction seems to be the most radical. Finding an article supporting or defending Huawei's stance was nearly impossible. Poland used to be more enthusiastic about the potentials of its economic relationship with China but takes a more critical stance—or even cautious approach—recently. For Poland, the huge high-trade deficit represents the biggest problem in its bilateral ties with China, but potential security risks of Chinese investments also made the Polish government to reconsider its rather positive approach toward China and use a firm rhetoric when it comes to doing business with Huawei. In Romania, both the pro- and anti-China voices are present in the media with critical, neutral, and also supportive articles on Huawei and its position in Romania. Relationship with the US has a decisive role in both Poland's and Romania's case. Hungary, as the major “panda-hugger” of the CEE region, supports Huawei the most. Hungary was among the firsts in the region to announce that Huawei will take part in the construction of Hungary's next-generation 5G wireless network. Reports from pro-government media convey significantly more positive messages, while daily newspapers or news portals close to the opposition or independent ones have delivered neutral or more negative news.

We consider that the civil society might finally incline the balance in one or another direction, as it is more willing to take part in public debates and defend its interests. The Huawei case study underscores the

complexity of new technologies not only from the perspective of cyber security, competition, and foreign policy but also from that of an increasingly educated population, more prepared to defend its rights. Even if the US considers Huawei as a threat and its efforts to support Huawei's main competitors, Ericsson and Nokia, have been intensified recently, the case studies of Poland, Hungary, and Romania underline the relevance of the Chinese company and its products while it seems that Huawei remains a competitive company in the CEE region.

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6

Huawei in Canada: Doing Business in the Midst of Game of Thrones

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On December 1, 2018, Meng Wanzhou, CFO of Huawei and daughter of Huawei founder, Ren Zhengfei, was on one of her frequent international business trips. Her planned travel would take her to Mexico City, Costa Rica, Argentina, and France (Proctor 2018), but she wound up in a different location for the years to come: While transiting through Vancouver International Airport, she was held and interviewed for three hours by the Canada Border Services Agency (CBSA). This interview led to a provisional arrest warrant by the Royal Canadian Mountain Police (RCMP). Meng's detention stemmed from an arrest warrant issued by a judge in New York in August 2018, and it was made in Canada under the terms of an extradition treaty between the U.S. and Canada (Fraser 2019).

The arrest made headlines four days later when it was announced on December 5, 2018. China was quick to demand her release stating that "The detention without giving any reason violates a person's human rights" (BBC 2018). Huawei took a similar position defending its

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CFO. Later, her defense team would allege that Canadians were acting as agents of the Federal Bureau of Investigation (FBI) when it became clear that a Canadian officer had collected Meng's electronics in anticipation of a request from the Federal Bureau of Investigation in the U.S. (Smart 2019). In fact, U.S. investigators had begun investigating Huawei for a possible violation of sanctions against Iran since 2016 (Freifeld 2018), which led to filing charges of fraud against Meng. This alleged fraud centered around Skycom, a company that did business in U.S.-sanctioned Iran. According to prosecutors, Skycom was a hidden subsidiary of Huawei with Meng serving on its board of directors (Proctor 2018). They add that Meng attempted to evade U.S. sanctions in relation to the movement of money out of Iran.

Regardless of the interactions among politicians, which is out of the scope of this chapter, the case of Huawei is an interesting one from a business strategy perspective, especially if studied in the context of Huawei's business in North America before and after the arrest. In fact, this case is an outstanding example of increased and disruptive interactions between firms and governments. Management and business scholars have long studied the impact of such interactions on business. In most of these studies, governmental politics takes the form of exogenous forces that influence business decisions, such as decisions about geographical targets for internationalization. These forces are often given: Firms take them for granted and adapt to them. With the growing power of multinational firms across the world, business actors have taken more agentic roles in their interactions with political actors, especially those about the role of Western multinationals in developing countries.

Nonetheless, the dynamics among Huawei and different governments, including the governments of the U.S., Canada, and China, represent a unique situation in which a non-Western firm becomes an actor in the global game of thrones—an actor doomed to be politically scrutinized due to the nature of its business. What brings Huawei into these dynamics is mostly its pioneer position in IT, especially its game-changer 5G technology. Such technologies can result in opportunities and threats for host states, which incentivize politicians to intervene in the regular flow of free market and long-supported globalization trends. Firms playing in

such a field need to develop new political capabilities to secure their business.

In this chapter, we adopt a business perspective to this multi-actor setting, aiming to contribute to the fields of strategy and international management. We are particularly interested in understanding how Huawei attempted to protect itself by focusing on its business in Canada after it faced direct political threats in the U.S., epitomized by the arrest of its CFO in Canada. To this end, we first briefly review the existing literature on business-government political interactions from a broad perspective. Then, adopting a case study qualitative method aligned with event-history process research (Langley 1999), we build on publicly available data and introduce Huawei's business expansion in North America, including its business in 5G technology. Taking the arrest as a critical event, we also briefly review the key post-arrest actions by various actors, by the end of Winter 2020. Although politics is interwoven in the studied phenomenon, we do our best to remain politically neutral in order to academically explore the implications of such disruptions for business. We discuss these potential contributions and opportunities for future business research. Given that at the time of writing this chapter the case is not concluded yet, future research can also shed light on how successful Huawei's strategies will be in the long term.

1 Business and State-Level Politics: A Broad Review

Conventional business literature often views political forces as a set of exogenous variables, albeit with uncertainties, that managers should consider in decision-making (e.g., Porter 1980, 1990). More specifically, in expansion to new markets, international business scholars have long studied the impact of state-level policy and politics in the selection of new locations and adoption of entry strategies by multinationals. A subset of these studies tries to explore the role of uncertainty in policy and political environments on firm decisions (Delios and Henisz 2003). In its simplest form, political uncertainty is a location disadvantage and may

discourage a firms' entry to a country. Such studies, for instance, suggest that political uncertainty in cross-border acquisitions alters the relative bargaining power between the two companies, as it makes the foreign acquirers demand compensation (Lee 2018).

Despite the conceptual differences between uncertainty and risk (Sarasvathy 2001; Orlitzky and Benjamin 2001), scholars have also explored this area under the divergent concept of political risks (Fitzpatrick 1983). Political risk is defined as "home or host country intervention in international business activities" (Ring et al. 1990: 143). Political risk includes various factors such as endemic corruption, government instability and frequent regime change, war, weak regulatory enforcement mechanisms, boycotts, and trade restrictions (Bekefi and Epstein 2006; Kobrin 1979; Ring et al. 1990). In their international expansion strategies, firms demonstrate substantial interest in the ability of the host country's government to credibly commit to a set of policies (Kobrin et al. 1980).

In a relevant but distinct stream of the literature, scholars who study "institutional voids" explore how the lack of different types of institutions can influence the international practice of firms. Scholars have also explored the contexts characterized by "political hazard," that is, where policy-makers can act unilaterally or policy is volatile due to factors such as exogenous shocks or policy-makers' preferences (Delios and Henisz 2003). In such contexts, firms need particular capabilities to, for instance, "detect and safeguard against opportunistic behavior on the part of a host country government or by partners, buyers, suppliers, and competitors that may seek to influence a host country government" (Delios and Henisz 2003: 1155).

Interestingly, political hazard is often ascribed to countries with weak policy structures and noticeable institutional voids, where, for example, potential risk of expropriation or forced renegotiation of contracts influence managers' investment decisions (Maitland and Sammartino 2015). What is less explored in the literature is the interesting case of political uncertainty in the contexts broadly characterized by policy stability. In developed countries, where strong regulatory institutions are in place, political uncertainty can take new and less explored forms, such as disruptions due to radical political party changes which may impact, for

instance, the country's international commitments, or rising national security concerns around a particular industry or country.

Furthermore, in host countries characterized by political stability, firms' internationalization strategies are influenced by "political affinity" between their origin and host countries. Political affinity is defined as the similarity of national interests in global affairs (Gartzke 1998). When political affinity is high, countries pose lower threats to each other's interests (Dixon and Moon 1993), which impacts multinationals in various ways, such as their merger and acquisition (M&A) decisions (Bertrand et al. 2016).

Political affinity is a complex concept with various dimensions, shaped and evolved in the long term. For instance, trade agreements and treaties are part of political affinity. Such treaties are of particular importance to firms. In expanding their international business, firms are sensitive to bilateral investment treaties, as such treaties can safeguard their future business in various ways. Hence, the existence of bilateral treaties is an advantage for an average firm making internationalization decisions. Nonetheless, some firms can also benefit in the lack of such treaties. Albino-Pimentel et al. (2018) demonstrated that firms with non-market capabilities are insensitive to such "supranational" institutional safeguards when expanding their international investments. In other words, in contrast to other firms, those firms with various forms of non-market capabilities are not sensitive to the absence of such provisions. Thus, non-market capabilities can obviate the need for such institutional arrangements in addressing cross-border risks.

As such, firms operating in international contexts vary in their response to policy risk in the host countries due to the differences in their capabilities for political risk assessment and managing the policy-making process. Prior experience in high-risk countries, for instance, can enhance such firm capabilities (Feinberg and Gupta 2009). These capabilities influence a multinational's strategies in various ways. For example, in their study on global electric energy generator companies, Holburn and Zelner noticed that firms from countries "characterized by weaker institutional constraints on policy makers or greater redistributive pressures associated with political rent seeking" are less sensitive to the policy risk in the host country (Holburn and Zelner 2010: 1290). Such firms tend to invest in

riskier host countries, where they can leverage their political capabilities. It is insightful to notice that multinationals practicing under such conditions tend to orient the business of their subsidiaries in such contexts within the company's global structure, rather than relying on external market (Feinberg and Gupta 2009).

It should be noticed that political stability, uncertainty, and risk are conceptually different from political hazards and disruptions. In fact, these two sets of factors impact individual firms through different mechanisms. Moreover, empirical studies suggest that political hazards and conflicts with governments follow different patterns compared to those with non-government actors. In a study on multinationals from and in various countries involved in arm-force disruptions, Oh and Oetzel (2017) demonstrated that the ability of a firm to leverage its experience with political risk across borders is dependent on the type of risk: In nonstate violent conflict situations, the firm's experience may be transferrable to other contexts, yet for conflicts involving the host country government, only country-specific experience may provide benefits.

Despite the value of firm's political capital, non-market capabilities, and political networks in managing political challenges across the borders, these are all double-edge swords. While a firm's political network can be an asset, it may also become a liability, particularly when rivalry exists between governments. In the context of China, Yan and Chang's (2018) study on steel companies demonstrated that while a firm's political connections to a focal government enhance performance, its connections to a rival government has a reverse effect proportionate with the intensity of rivalry. This observation is of particular importance when the results are generalized to competing governments across the world, such as the situation in which Huawei does business in North America.

Overall, when the rivalry across the countries intensifies, such as the existing U.S.-China tensions, the complexities of political risks of doing cross-border business grow. Given the intertwined nature of political and trade global interactions, the emergence of multinationals from BRICS (Brazil, Russia, India, China, and South Africa) and developing countries that change the direction of technological flow across the globe has dramatically furthered these complexities, opening a new chapter in geo-strategic studies, with a particular focus on the role of business in political

interactions as well as the impact of political conflicts on business. Business disruptions due to political factors, such as what Huawei faced in the U.S., generate new questions about how firms respond to political hazards. The case of Huawei can shed light on some of these questions and open new avenues to develop knowledge in this area. To this end, in the next section, we provide a narrative of how the company practiced under unfavorable political situations.

2 Huawei's Business in North America

2.1 Business Profile

In general, the company's global business operates three main business groups, followed by a smaller but growing group. Two of the three main groups, the Carrier group and Enterprise group, target the B2B (Business-to-Business) market with its third Consumer Business targeting B2C (Business-to-Consumer) transactions. According to Huawei's 2018 annual report, its Carrier business accounted for \$36.3 billion of Huawei's \$105.2 billion of revenue, or 34.5%. The Enterprise business groups made up \$10.8 billion and the Consumer Business generated \$50.8 billion of revenue (Huawei 2018b). Combined, Huawei's 2018 revenue was up 19.5% from 2017.

The first group, the Carrier Network Business Group, provides solutions including wireless and fixed networks, automotive driving network solutions, IT infrastructure, service and software, and network energy solutions to major communications carriers worldwide (Huawei 2020c). This business group is responsible for the deployment of 4G and 5G networks worldwide. As of November 21, 2018, this group had 22 commercial contracts for 5G networks worldwide (Huawei 2018a).

Established in 2011, the Enterprise Business Group provides products and services such as Wi-Fi, All-Flash Storage, switches and networking gear, data center solutions, software-defined AI cameras, and a variety of others to 25,000+ enterprises worldwide. They market toward partners

that include smart city, public safety, finance, oil and gas, and transportation, among others (Huawei 2020a).

Huawei's third major business group targets consumer market and is its most widely recognized business group. This group sells personal handsets and smartphones. Starting as a low-cost component and assembly provider to other phone makers, Huawei has grown this business group into a proprietary brand, a key component in their current and future growth strategy. Huawei expanded into other smart devices, such as Huawei Watch, Huawei Mediapad, and fitness watch, and have even designed their own operating system and artificial intelligence (AI) (Huawei 2020e).

In April 2017, Huawei announced the launch of an additional separate business group to provide cloud business solutions to corporations around the world. With an initial investment of \$1 billion, Huawei planned to both independently and through partnerships create a new public cloud platform (Jiang 2017). As of January 2020, solutions provided include computing, storage, and networking services (Huawei 2020d).

2.2 The 5G Technology: Where Controversies Are Nested (Or Not)

The fifth generation (5G) of mobile wireless communications is deemed a quantum leap in the technology: It improves on the previous generation by providing lower latency, offering greater stability and the ability to connect to many more devices at once, and increasing data transfer speeds. 5G does this by using higher-frequency bands in the radio spectrum. These waves are faster and therefore have higher capacities but shorter wavelengths. They travel shorter distances before being disrupted. 5G combined with 4G LTE (Long-Term Evolution) networks are expected to be 10–20 times faster than 4G networks (BBC News 2020). Standalone 5G could allow mobile internet to be as fast as, if not faster than, hardwired fiber connections with gigabit-plus browsing speeds.

Other than the benefits to consumers highlighted above, 5G promises to expand the number of business applications that are possible. As stated,

tapping into 5G technology allows for more devices to be used in the same cell area. The cell tower hardware is also significantly smaller, meaning that they can be placed at a higher density. These two factors make technologies such as autonomous driving networks, connected logistics-transport-infrastructure, robotics, blockchain, industrial Internet of Things (IoT), smart factories, and augmented/virtual/mixed reality possible. Increased efficiency, production, reduced costs, and quicker innovative breakthroughs are all by-products of the use of 5G networks. To take advantage of 5G, businesses must develop strategies to prepare and take advantages of it (Marr 2019).

There are at least four major companies that have worked at developing 5G gear. These include the Chinese firms Huawei and ZTE China, Swedish Ericsson, and Finnish Nokia. On the device side, manufacturers that are involved in the production of communications chips that allow for 5G use include U.S.-based Qualcomm and Taiwanese MediaTek while Samsung and Huawei develop their own chips for their mobile phones. Qualcomm's owning of a large number of 5G patents means that chip and gear makers must pay licensing fees to use the IP (Auchard and Nellis 2018).

As of 2019, Huawei has released some of its 5G technology to the market. The Kirin 990 chipset, which powers Huawei's flagship Mate 30, is 5G optimized (The Associated Press 2019). Huawei became the first company to launch a chipset supporting the 3GPP standard for 5G and the first 5G Customer Premise Equipment powered by the chipset, doing so at the Mobile World Congress 2018. It was the first vendor to complete all three phases of China's 5G technology R&D (research and development) test on non-standalone and standalone 5G architecture. In recognition of their capabilities, many carriers around the world have partnered up with Huawei on commercial tests of the technology. Huawei's commitment to 5G carries over to its other businesses as well. After becoming an industry leader in massive MIMO (multiple-input multiple-output) technology, Huawei's 5G microwave deployment has kicked off in a commercial capacity. In cloud core network and IT development, Huawei's solutions support smooth evolution toward 5G core networks (Huawei 2018b).

With such a position in advancing the systems that shape the next generations of communication technology, it is not surprising that political factors become inseparable variables in a seemingly business-driven equation. Indeed, these political aspects were never absent in Huawei's business interactions in North America. To fathom the complexities of Meng Wanzhou's arrest, we also need to understand the historical path of the company and its founder.

3 The Political and Business Path-Dependence of an Arrest

Reference to Huawei in West was rarely separate from his founder's political past. Born on October 25, 1944, Ren Zhengfei was brought up in a remote mountainous area of the Guizhou Province. He attended the Chongqing Institute of Civil Engineering and Architecture in 1963 studying Civil Engineering. After some years working in the industry, Ren joined the Chinese military's Engineering Corps in 1974 where he would serve for nine years. In 1982, one year before his retirement from the military, Ren attended the National Congress of the Communist Party of China (Huawei 2020f). Ren's connection to the Communist Party remained a major source of the security concerns raised by many host countries to which Huawei internationalized later.

Ren Zhengfei started Huawei in 1987, initially as a phone switch manufacturer (Ahrens 2013). The company made its first switch by 1993 and the Chinese Army became one of its first clients (Johnson and Groll 2019). By 1996, The *Far Eastern Economic Review* reported that the Chinese policy shifted to favor domestic telecom companies over foreign ones (Gilley 2000). Huawei used this opportunity to expand domestically matching the market share of Shanghai Bell by 1998.

In 2001, Huawei set up its first office in the U.S. This was part of its globalization strategy that saw it rise from a small player in the Chinese market to a global leader in telecommunications business. To this end, Huawei explored many opportunities, from organic growth to acquisitions. Starting in Plano, Texas, in November 2003, Huawei created a

joint venture with 3COM to sell routers and switches (Gross 2003). Yet its 2008 attempt to purchase a 16% stake in 3COM was blocked by lawmakers over security concerns (Weisman 2008). By 2011, Huawei in the U.S. had grown to 12 branch offices, 7 R&D centers, and more than 1100 employees (Huawei 2020b).

Huawei's Canadian operation started in 2008 selling low-price devices on small carrier networks. The early 2010s signaled an increased Huawei commitment to Canada. First in 2010, Huawei opened a R&D center in Ottawa, Ontario. This was followed up with the opening of a new headquarters in Markham, Ontario, in 2011 (Luong 2011). In 2014, Huawei switched gear and started selling higher-end mobile devices on large carrier signaling to Canadians that it had arrived through extensive nationwide advertisement campaigns (Robertson and Castaldo 2018).

As common in the world of business, Huawei's early years in North America saw several legal claims. For instance, in January 2003, Cisco Systems Inc. filed a lawsuit against Huawei, accusing it of copying its IP (Duffy 2003). Then, in 2010, Motorola filed a corporate espionage lawsuit but later settled with Huawei (Wahba and Lee 2010). In September 2013, T-Mobile sued Huawei over theft of a robot arm named "Tappy" that tests smartphones. Huawei dismissed two workers stating they were acting inappropriately (Fried 2014).

None of these common legal challenges in the world of business, however, equaled the higher-level threats imposed on the company due to security concerns, mainly raised by state-level actors. The idea that Huawei was linked to the Chinese military surfaced in 2005. The accusation was based on the fact that Huawei conducted research with the Chinese military as its political patron (Medeiros et al. 2005). This was the beginning of raising concerns about Huawei's business, followed by various accusations of and actions against Huawei, which still continue.

To name a few of these accusations and actions, in 2007, the FBI interviewed Ren Zhengfei about potential Iran sanction violations (Lahiri 2019). Based on such concerns, November 2010 saw Sprint Corp., one of the largest American telecommunication companies, excluding Huawei from bidding on a contract due to security concerns (Lublin and Raice 2010). Then, in October 2012, a House of Representatives committee issued a report warning against using equipment from both Huawei and

ZTE (Lahiri and Hui 2019). This was followed in 2013 by a report that a Huawei affiliate tried to sell U.S. telecommunications equipment to Iran in violation of U.S. trade sanctions. Meng Wanzhou, as a member of the board, was among those who were named in this report (Lahiri and Hui 2019). In 2016, the U.S. Commerce Department issued a subpoena to Huawei to probe whether the company violated U.S. export controls on the export of American technology to Cuba, North Korea, Syria, and Sudan over the previous five years (Mozur 2016). In May of 2018, the Pentagon banned the sale of Huawei and ZTE phones in stores on military bases over concerns that the Chinese government could spy on their communications through Huawei (Holt 2018). August of the same year saw the NDAA (National Defense Authorization Act) come into effect barring government agencies from buying equipment or services from Huawei (Shu 2018).

Finally, on December 1, 2018, a major stumble in the U.S.-Huawei relationship occurred, but this time in Canada. Meng was arrested in British Columbia at the request of U.S. law enforcement over the suspicion of violating traded sanctions in Iran. Symbolically enough, the arrest took place on the same day Donald Trump and Xi Jinping were meeting in Argentina to reduce trade tensions (Lahiri and Huang 2018).

Although Meng was once a permanent resident of Canada, she had a hard time getting bail as Canadian prosecutors deemed her a flight risk due to her wealth and position. Eventually, her lawyers managed to get her released on conditions that include \$7 million in bail, guarantees from five close friends, as well as around the hour guards. Meng remained till this day under guard while waiting on a ruling on whether Canada will be extraditing her to the U.S. to face the charges against her (Proctor 2018). But her arrest epitomizes how political interactions can impact, if not disrupt, a firm's strategy.

4 A Firm in a Multi-Actor Political Setting

The months following Meng Wanzhou's arrest were fraught with political and legal controversies, actions, and reactions taken by various actors, including different governments and Huawei itself. Understanding

business implications of the phenomenon needs understanding these dynamics. In this section, we quickly review the actions taken by the focal actors.

4.1 Actions by the U.S.

The arrest of Meng Wanzhou was a new beginning of what seemed to be hostile actions by the U.S. government toward Huawei. The proverbial “carrot,” however, came a few days after the “stick,” that is, when President Trump suggested that he could intervene in the Justice Department case against Meng if it would help secure a trade deal from China (Holland et al. 2018). Yet there seems to be no publicly available evidence showing that this intervention happened at a noticeable level in the months to come. The next “stick” was shown weeks after Meng Wanzhou’s arrest in Canada, on December 28, when the Trump administration announced it had been considering a formal ban of Chinese manufacturers Huawei and ZTE for more than eight months. This executive order would ban American carriers from buying equipment from Chinese companies on the grounds of national security (Shepardson and Bartz 2018).

On January 28, 2019, formal criminal charges were filed by the U.S. Justice Department against Huawei and Meng Wanzhou. The charges against Meng alleged that she committed wire fraud, obstructed justice, conspired to launder money, and violated the International Emergency Economic Powers Act (IEEPA) by doing business with sanctioned Iran. The charges against Huawei were for allegedly stealing trade secret from T-Mobile surrounding the robot “Tappy,” for which Huawei was sued in 2013 (Fazzini 2019). The final charges came almost two months after the U.S. requested the Canadian government to arrest Meng and came with a request for her extradition.

4.1.1 U.S. Bans

U.S. actions after the arrest include new bans against China and Chinese companies. The first ban was imposed almost four month after the arrest,

when President Trump carried up on his December 2018 threat in March 2019 by signing an executive order that allows the federal government to block U.S. companies from buying foreign-made telecommunications equipment on the grounds of a national security threat. This ban was directed at Huawei and ZTE as the U.S. argued they could be forced to give the Chinese government access to backdoors that allow it to spy on Americans (Lecher 2019b). Soon after, Huawei launched a lawsuit against the U.S. government objecting to the imposed ban as unconstitutional (Mikolajczak 2019).

The second ban came on August 7, 2019, as the Trump administration rolled out a rule that banned U.S. government agencies from doing business with five Chinese companies including Huawei. This ban governed federal purchases of telecommunications and video surveillance equipment and services. The ban itself was mandated by the National Defense Authorization Act (NDAA) signed the year before by Congress. The NDAA restrictions were not related to the U.S. Commerce Department's trade blacklist.

The Federal Communications Commission (FCC) became the third U.S. regulatory body to move against Huawei and Chinese companies when, on October 10, 2019, it announced plans to cut off funding to wireless carriers that use equipment the agency says may pose a national security risk (Reardon 2019). The FCC followed up on this plan on November 22, 2019, when it blocked U.S. telecom from using federal funds to buy Huawei equipment. This came after the FCC designated both Huawei and ZTE as a threat to national security. Huawei for its part signaled its intent to sue the FCC as it had sued the U.S. government in the past (Fung 2019).

Another piece to the U.S. ban was enacted on December 16, 2019, with the U.S. House of Representatives voting to pass legislation that would prevent the government from using funds to help carriers buy Huawei's telecommunications equipment as well as any equipment that was deemed a threat. Similar to the FCC's block, the Secure and Trusted Communications Network Act solidified the American position on Huawei and other Chinese telecommunications (Reichert 2019a).

The U.S. also lobbied their allies to ban Huawei with the president's chief technology officer targeting European countries on November 8,

2019, and criticizing them for not taking a stand with the U.S. in banning Chinese companies such as Huawei to stop them from dominating the 5G and AI markets (Keane 2019d). On November 23, 2019, U.S. representatives repeated their warning about Huawei and ZTE, labeling Huawei as a Trojan horse. This time the warnings were directed at Canadian representatives at the Halifax International Security Forum (Brewster 2019).

4.1.2 Relaxation in Bans

At the same time as the U.S. was rolling out bans on Huawei, the U.S. Commerce Department announced on May 1, 2019, that Google had received a 90-day extension allowing it to continue working with Huawei past the ban deadline. Google primarily provided Huawei with its Android software. This exemption allowed Google to continue sending software updates to Huawei phones (Meredith 2019). Later, on June 29, 2019, President Trump agreed to ease restrictions on Huawei by easing restrictions on U.S. companies that previously sold their high-tech gear to resume sales. This was touted as a part of a deal to resume trade talks with China and came about after a meeting with Xi Jinping, the Chinese president (CNET News Staff 2019). This 90-day extension would be extended multiple times by the U.S. Commerce Department, first on August 19, 2019 (Shepardson and Freifeld 2019), and again on November 19, 2019 (Keane 2019c).

Once the Trump administration started easing up restrictions, Congress introduced bipartisan legislation on July 16, 2019, to prohibit the removal of Huawei from the blacklist without an act of Congress. They did not agree with the president allowing Huawei to have the ability to compromise U.S. national security (Brown 2019).

Eventually, however, it became apparent that the ban on Huawei was affecting U.S. companies negatively. When the U.S. government announced it was accepting license requests from American companies wishing to do business with the Chinese corporation, 260 companies submitted requests. This prompted Commerce Secretary Wilbur Ross to announce that the U.S. government will grant licenses to allow sales to

Huawei on November 4, 2019 (Keane 2019e). Trade in these licenses, of course, all followed unidirectional sales to Huawei. In other words, not only the claimed security threats of Huawei were avoided, but the economic interests of the American sides were also protected.

4.1.3 Persuading Other Countries to Ban Huawei

When Secretary of State Mike Pompeo began his European tour in February 2019, his agenda included a warning to U.S. allies regarding their ties with Huawei. He warned about the dangers of giving Huawei access to their 5G networks and threatened that it would be harder for the U.S. to partner with nations that sustained their links with Huawei (Hamilton 2019). Though, it appears that these warnings have only persuaded a few governments to follow the lead of the U.S. to ban Huawei and other Chinese companies.

Before Meng's arrest, Australia banned Huawei from supplying tech for the country's network in August 2018 (BBC News 2019). November 2018 saw New Zealand blocking a proposal from one of its biggest carriers that would see Huawei equipment being deployed in its 5G network citing security risks (Xu 2018). Similarly, Japan beat Pompeo to the punch, banning Huawei from winning any government contracts in December 2018 (Denyer 2018).

On the European front, the European Commission recommended its member states to conduct their own risk assessment by the end of June 2019. This independent approach was praised by Huawei as objective (European Commission 2019). Immediately after Pompei concluded his tour in Europe, the German government reported it was leaning toward allowing Huawei to work on its 5G network (Pancevski and Germano 2019). Germany had investigated Huawei and found no evidence that the firm could use its equipment to spy for Beijing (The Local 2018). Yet, resistance within the German parliament mounted against German Chancellor Angela Merkel's plan to rule out a ban on Huawei (Bloomberg 2020).

The biggest blow, however, has come from Britain. On January 28, 2020, the British government announced it would allow Huawei to

provide a limited amount of equipment for Britain's 5G and fixed-line networks (Hamilton 2020). This came after repeated visits by Trump and U.S. officials to the U.K. to discuss Huawei specifically. Just this last June, Trump visited with, then Prime Minister, Theresa May for an hour over this matter (Holland and James 2019). Then in August 2019, U.S. national security adviser John Bolton visited the newly elected Boris Johnson to persuade him to take a tougher line against Huawei (Wintour 2019). In a last-ditch attempt to persuade Britain to ban Huawei, Mike Pompeo pressed British Foreign Secretary Dominic Raab over Huawei at a meeting in Washington on January 9, 2020 (Stubbs and Alper 2020). The U.S. also sent a delegation to meet with British industry officials on January 13, 2020, ahead of the British decision (Piper 2020). Then days ahead of its decision, Trump resorted to warning Boris Johnson that there will be serious consequences if Huawei equipment is used (Colson and Bienkov 2020). In the end, the British government had decided to call Trump's bluff and allowed Huawei to participate.

4.2 Actions by Canadian Government

Interestingly, unlike the U.S. government, the Canadian government's position has remained the same throughout. After the arrest of Meng Wanzhou, the Canadian government did not take any action to further ban Huawei from performing business in Canada or with Canadian companies. The Liberal government refrained on deciding on this matter even when Conservatives called on them to ban Huawei. The Conservative position was transparent since at least May 1, 2019, with then party leader, Andrew Scheer, going on the record to state that his government would ban Huawei from 5G networks (Boutilier 2019). Even former Prime Minister, Stephen Harper, chimed in, going on the record asking for a Huawei ban in compliance with American requests (Vomiero 2018). Nonetheless, the official Canadian position has been to wait for the result of a security review to conclude before they make a decision (Wingrove 2019). This security review was pushed until after the 2019 elections (Reichert 2019b). Most recently, Canada's security agencies disagreed on whether to ban Huawei or not, with the Canadian Security Intelligence

Service believing the risk can be mitigated and Communications Security Establishment supporting an outright ban (Pearson 2019).

Canadian telecommunication companies, many of which partnered with Huawei for several years, continued to stand by their Chinese counterpart. Bell Canada, which teamed up with Huawei to test 5G in Ontario in 2019, maintained that Huawei is a great partner to work with (Bellusci 2020). Telus operated a living lab in Vancouver since 2015 and wanted to bring this lab to Edmonton as late as October 28, 2019 (Johnston 2019). Rogers, however, partnered up with Ericson to launch its 5G network.

4.3 Actions by Chinese Government

For their part, the Chinese government did not perform any drastic actions against the U.S. ban specifically, yet their response to Canada was more severe. A little over a week after Meng Wanzhou was arrested, two Canadians were detained in China. China then warned Canada that a ban on Huawei's 5G tech will trigger repercussions, without immediately explaining what these repercussions would be (Zhou 2019). On March 1, 2019, China revoked Richardson International's registration stopping them from exporting canola into China (Evans 2019). While China claims that their actions were not a response to Meng's arrest, experts argue that these actions were made to pressure Canada (Martina 2019).

4.4 Actions by Huawei: Location Strategies

Huawei's actions in response to the arrest and subsequent bans in the U.S. ranged from collaborative to competitive. On the one hand, Ren Zhengfei himself, previously known as a low-profile CEO, turned his approach and actively started a series of public communications in support of his company and his daughter. On the other hand, the company adopted active strategies, building upon both legal measures and business strategies to protect Huawei's leading 5G technologies. Most significantly, a couple of months after the U.S. announced the initial ban, Huawei filed a lawsuit that alleged the ban being unconstitutional (Lecher 2019a).

Worldwide, Huawei was still being awarded contracts but, in the U.S., it was evident that the company was experiencing a downturn. A major layoff was planned in July 15, 2019, due to struggles caused by the ban (Keane 2019b). Less than two weeks later, Huawei laid off 600 out of 850 researchers at its U.S. subsidiary Futuerwei (Lee 2019). Huawei attempted to use publicity and the lure of funding to keep universities from cutting ties. On September 3, 2019, Huawei announced that it would give universities that kept ties with the company \$300 million a year in research funding (Jiang 2019).

Furthermore, Huawei and its CEO tried to use a different approach on multiple occasions appearing to entice the U.S. to lift the ban. On September 26, 2019, Ren Zhengfei reported that Huawei would continue producing next-generation 5G base stations without American parts. He also spoke about partnering with a U.S.-based company to sell 5G technology together (Keane 2019a). When both these strategies appeared to fail, on December 3, 2019, Huawei announced that it was relocating its research center to Canada due to the sanctions (The Canadian Press 2019). On the same day, Huawei also proceeded with the removal of American components from its smartphones (Keane 2019a). Even though some U.S. companies had received exceptions to selling parts to Huawei, the Chinese company decided to find other suppliers. It moved its chip production in-house and developed their own operating system, even threatening Google to never use their operating system on Huawei phones again (Doffman 2019).

Interestingly, despite the fact that the arrest occurred in Canada and Chinese government practically signaled its position against Canada's political stance in taking U.S. side, Huawei's growth strategy in Canada does not seem to take a defensive turn. Huawei offices in cities such as Vancouver, Ottawa, Markham, Montreal, and Quebec City continued their operations. Also, evidence suggests that collaborations between Huawei and Canadian universities continued, despite the threats academics faced due to the U.S.-China tensions (Young 2020). The roots of this strategy should be sought in the nature of Huawei's business in Canada and the *raison d'être* of its presence in North America. Huawei's B2C and B2B sectors might play different roles in this decision.

With respect to B2C, from the perspective of citizens, with the security concerns receiving ongoing media coverage, Huawei's publicity as a Chinese tech company was to some extent damaged in Canada (Snyder 2019). Although no formal data is available, it seems that Huawei's mobile phone and consumer solution market was negatively impacted by this negative publicity and therefore, cooperating with its local partners, Huawei tried to ameliorate the market, for example, by providing gifts to mobile buyers (Lamont 2020). Nonetheless, selling cell phones was so little of the ambitions the giant was following in North America.

From a strategy point of view, Huawei's business in Canada pursues achievements beyond consumer markets. Indeed, a significant part of the company's activities in its Canadian subsidiaries revolves around R&D and development of standard routines. Through ongoing standardization and patenting, including those pertaining to 5G, such a company can secure ongoing future income streams. These activities also pave the way for new generations of technologies—those that build on the achieved knowledge to shape the long-term technological landscape in telecommunication.

Therefore, strategic goals of Huawei in Canada are not simply limited to their access to consumer market; it is the location advantages that secure this business and technological supremacy in the long term. These advantages include the access to a market of skilled employees who can push the agenda forward and ensure the company's success in global standardization of IT advancements. In international conventions for technology standardization, not only technical knowledge of the company's representatives, but even simple advantages such as ease of travel across the borders and language skills are valuable assets that Canadian subsidiaries can provide. Another location advantage that the company cannot overlook is the top-tier researchers who can contribute to the company's R&D projects globally.

5 Discussion and Final Thoughts

For different reasons, it is still premature to draw solid conclusions from the case of Huawei: the case is complex and multi-faceted, events are still unfolding, new facts and claims are being made by various actors, and political turns influence the stances and actions of actors. Still, in this

section, we propose some interim discussions and thoughts. Future events and facts can enhance our learnings from the case. Underlying the discussion is the fact that business, through its formation and maturity in modern societies, has been viewed as the arm of the governments in providing welfare and economic development. Governments, especially in developed countries with stronger ties to laissez-faire economic mindset, utilize the unique capabilities of business to implement their national strategies, not least in providing technological advances, whether it be through what companies such as SpaceX pursue in pushing the frontiers of technology or through R&D in pharma industry to eliminate disease. Arguably, the dissemination of globalization was largely due to such contributions of business to developed nations.

Nonetheless, two factors relevant to our discussion increasingly change the equilibriums of global trade and politics. First, the economic and technological advancement of emerging and developing economies has brought forth new complexities to business-government interactions, as the advantages of access to global market is now shared with new multinationals from across the world, even those countries with little political affinity (Bertrand et al. 2016) with the Western countries, as the socio-economic contributions of such multinationals to developed countries might be questionable. Second, global digitization and the diffusion of IT in almost all aspects of modern life (including business) and the involvement of many countries in this process creates a new balance of power across the nations. The omni-presence of IT industry and its interactions with other industries also raises concerns with respect to intelligence and data security. In other words, whereas in the past, sensitive areas of business involvement in technology development were limited, for example, in military areas, which were largely controllable by governments, now IT has expanded its realm to all aspects of life, while its nature also makes it hard to control. The opportunities and threats resulted by the infusion of IT in almost all industries urge governments to reconsider their stances on globalization. A government's stance becomes more antagonistic when globalization does not serve its economic interests as well. In such a situation, it becomes harder to dig into the political rhetoric and unearth the real causes of governments' trade-related political decisions against globalization.

The case of Huawei bans in recent years reflects some of these new dynamics. Despite the salience of security concerns in many global IT interactions in general, as the provided narrative suggests, digital security doesn't seem to be the only reason for constraining the company's business in North America. Indeed, Huawei's position in 5G signals the emergence of a company adept in playing the game based on the rules set by international players. From the perspective of a government in a developed country, success of such a business is not an isolated success for a "foreigner" company, as it would solidify the company's position as the provider of the future technological needs across the globe, due to the notion of path-dependency of resources and capabilities in business (Barney 1991).

Thus, it is no surprise that governments, even if not really concerned about national data security threats, share concerns about economic threats that such an achievement by Huawei can impose on their business environment. It is insightful to notice that European countries such as the U.K. and Germany show little or varying levels of concern about security threats of Huawei over time, whereas Australia barred Huawei from major project as early as 2012 (Zhou and Fang 2019). From one perspective, Huawei-provided 5G would result in Australia's dependence on Chinese technology and also bans mainly aim to give Huawei's competitors a competitive edge (Zhou and Fang 2019). The U.S. government's simultaneous bail-out to support American IT companies can shed more light on this multi-faceted competition. It is also insightful to that other industry actors (not only Huawei's partners, but also its competitors) do not necessarily support bans. For instance, the CEO of Cisco—one of Huawei's main competitors—reportedly suggested that fears of Huawei's dominance may be overblown (Zhou and Fang 2019).

But, regardless of the alleged ties of Huawei to the Chinese government, from a business perspective, how should a company respond to such macro-level barriers that jeopardize its business? Whether Huawei's technology really threatens national security of host counties or not is beyond what this chapter can explore, but regardless of the answer, to the extent that governments can legitimately concern national security, it is legitimate for a firm to protect its operations and markets within regulation and ethics. Huawei's responses in this regard are insightful in

different ways. First, location advantages constitute one of the main inputs to internationalization decisions (Dunning 1980), but for a modern IT company, location advantages barely deal with conventional product markets or cheap labor. North America is a major playground for Huawei as it provides a resourceful market of talent and capabilities that Huawei needs in expanding, patenting, standardizing, and advancing its technologies. As strategic resource theories suggest, securing such resources and sustaining such capabilities is essential to sustain Huawei's competitive advantage in the long term (Barney 1991; Teece et al. 1997).

Second, in the surmounting multi-faceted rivalry between the U.S. and Chinese governments, Huawei's origin and its alleged ties to the Chinese government can intensify its challenges. This can act as a double-edge blade: On the one hand, China's direct or indirect support of Huawei after the arrest of Meng can help Huawei secure its business in a country such as Canada, given its significant trade with China. On the other hand, China's support can validate the alleged connections between Huawei and Chinese government, which would perpetuate the negative impacts on the company's international business (Yan and Chang 2018). How Huawei can navigate through these contradictory impacts remains an inquiry for future studies.

Third, consistent with Feinberg and Gupta's (2009) findings, Huawei tends to orient its business in Canada toward its global structure, that is, as a provider of its internal capabilities and services rather than a seller to external buyers. Still, Huawei has also shown interest in protecting its business with external customers and partners, such as Canadian communication companies or in its C2C business group. With the ongoing pressure from the U.S., whether the company succeeds or not will unfold in future. Further, Huawei did not cut back on its support and grants provided for Canadian universities and scholars. This is in stark contrast with what a conventional business mindset may suggest after the company faces a disruption such as the arrest of one of its top managers and a "family member." These strategies all harmoniously signal the firm's will to sustain its presence in Canada, rather than adopting a defensive position. And by its consistent presence in Canada and the opportunities it provides to this country, for example, in job creation, Huawei also increases the costs of new antagonistic moves for Canadian government, as anti-Huawei actions can cost Canada thousands of jobs and significant

Table 6.1 Key post-arrest events and actions

U.S.	
Dec. 1, 2018	Trump administration announces it is considering a formal ban of Chinese manufacturers Huawei and ZTE.
Jan. 28, 2019	Formal criminal charges are filed by the U.S. Justice Department against Huawei and Meng Wanzhou (Fazzini 2019).
Mar. 2019	Trump signs an executive order that allows the federal government to block U.S. companies from buying foreign-made telecommunications equipment on the grounds of a national security threat (Lecher 2019b).
May 1, 2019	Google receives a 90-day extension allowing it to continue working with Huawei past the ban deadline (Meredith 2019).
Jun. 29, 2019	Trump eases restrictions on Huawei by allowing U.S. companies that previously sold their high-tech gear to resume doing so (CNET News Staff 2019).
Jul. 16, 2019	Bipartisan legislation introduced to prohibit the removal of Huawei from the blacklist without an act of Congress (Brown 2019).
Aug. 7, 2019	NDAA ban rolled prohibiting U.S. government agencies from doing business with five Chinese companies including Huawei (Mihalcik 2019).
Aug. 19, 2019	The U.S. Commerce Department extended the temporary license again (Shepardson and Freifeld 2019).
Oct. 10, 2019	The Federal Communications Commission plans to cut off funding to wireless carriers that use equipment the agency believes may pose a national security risk (Reardon 2019).
Nov. 4, 2019	U.S. government to grant licenses to allow sales of non-sensitive equipment to Huawei (Keane 2019a).
Nov. 8, 2019	President's CTO criticizes European countries for not taking a stand in banning Chinese companies such as Huawei to stop them from dominating the 5G and AI markets (Keane 2019d).
Nov. 19, 2019	The U.S. Commerce Department extended the temporary license for a third time (Keane 2019c).
Nov. 22, 2019	FCC blocks U.S. telecom from using federal funds to buy Huawei equipment.
Nov. 23, 2019	U.S. representatives warn Canadian representatives that Huawei and ZTE are Trojan horses (Brewster 2019).
Dec. 16, 2019	U.S. House of Representatives passes legislation that would prevent the government from using funds to help carriers buy Huawei's telecommunications equipment as well as any equipment that was deemed a threat (Reichert 2019a).
Canadian government	
Dec. 7, 2018	Stephen Harper urges the Canadian government to ban Huawei from its upcoming 5G network on Fox News (Vomiero 2018).

(continued)

Table 6.1 (continued)

Jan. 17, 2019	Canadian government updates status of security reviews of the 5G network (Wingrove 2019).
May 1, 2019	Andrew Scheer announces that he would ban Huawei from participating in Canada's 5G wireless network if elected (Boutilier 2019).
July 15, 2019	Decision whether to ban Huawei from 5G network development will be pushed until after the Elections in Canada in October. Decision will also be tied to the decision to release the Canadians held in China (Reichert 2019b).
Nov. 12, 2019	CSIS (Canadian Security Intelligence Service) and CSE (Canadian Securities Exchange) conclude their security reviews of 5G networks and disagree about the threat Huawei poses (Pearson 2019).
Huawei's actions	
Mar. 6, 2019	Huawei files a suit alleging that the U.S. unconstitutionally singled out Huawei by preventing government use of Huawei equipment (Lecher 2019a).
Jul. 15, 2019	Huawei announces plans to lay off a large number of researchers from its Futurewei subsidiary based in Texas, California (Keane 2019b).
Jul. 25, 2019	Futurewei lays off 600 workers (Lee 2019).
Sept. 3, 2019	Huawei announced plans to spend more than \$300 million a year in research funding for universities (Jiang 2019).
Sept. 26, 2019	Huawei is already producing 5G wireless bases without U.S. parts. Ren Zhengfei had previously indicated Huawei was ready to share its technology with a Western buyer (Keane 2019a).
Nov. 22, 2019	Huawei signaled its intent to sue the FCC as it had sued the U.S. government in the past (Fung 2019).
Dec. 3, 2019	Huawei moving its U.S. research center to Canada (The Canadian Press 2019).
Dec. 24, 2019	Huawei warns Google that they will be ready to install their in-house mobile services software (HMS) replacing Google mobile services (GMS) on their cell phones (Doffman 2019).

economic loss. It seems that Huawei deliberately utilizes these advantages in its strategic moves in Canada, as increasing the costs of potential bans in Canada can safeguard its business.

Not every multinational can adopt such aggressive strategies, as they require not only significant market assets and perhaps a level of support from the home government, but also particular strategic non-market capabilities (Albino-Pimentel et al. 2018). Such a company should know

how to utilize these capabilities toward its business goals through an unconventional approach in dealing with high levels of political uncertainty. In a world where business and politics are increasingly intertwined and in the midst of the politicians' game of thrones, global firms need such capabilities to survive. What constitutes these capabilities is a critical question for both scholars and practitioners of business (Table 6.1).

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7

Huawei Mexico: Between the Construction of Upgrading and the Uncertainty Caused

Jorge Carrillo and Jordy Micheli

1 Introduction

Huawei, as a multinational corporation (MNC), skipped quickly over the different phases of internationalization, and became a so-called born global firm (Dunning and Lundan 2008; Knight and Cavusgil 1996). This chapter describes Huawei's internationalization strategy in Mexico, which was based on its technological and adaptive capacities oriented

This chapter is based on a previous publication (Carrillo and Micheli 2017; Micheli and Carrillo 2016). The study is based on a review of the literature, visits to company facilities, and interviews with various Huawei managers in Mexico, Guadalajara and Mexico City. We thank Wu Yu (Vicente), Director of Public Relations of Huawei Mexico, for all the information and opinions provided. Interviews were conducted by Jordy Micheli on August 28, October 22, and December 12, 2019, in Mexico City.

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toward local mass telecommunications markets. This description serves as a framework in which to explain two of the firm's structural capabilities in Mexico: assembly and supply operations and research and development (R&D). Founded in 1987, Huawei plays a leading role in its industry, operates globally from its headquarters in Shenzhen, and serves various digital economy markets such as infrastructure for carriers,¹ terminal equipment, creation of business solutions, and R&D.

This research is part of a study of the current forms of MNC organization and production in Mexico (Carrillo 2013), in order to understand the way in which such companies transfer specific capabilities under new patterns of internationalization (Dunning 1998). Although we may understand Huawei as part of the new emerging countries' multinationals that are "born global," recent studies show that their internationalization more closely resembles the case of Chinese companies characterized by the need to acquire strategic assets in order to reinforce their competitive position within their own domestic market (Parmentola 2017).

Our research shows that in the case of Mexico, Huawei's internationalization responds to a hybrid strategy composed of (a) primarily the search for a domestic market, (b) investment in local technological assets (skilled labor), (c) the company's corporate capabilities in Shenzhen, and (d) the aim of securing a Latin American regional presence. In other words, the internationalization strategy to strengthen its position in its domestic market—according to Parmentola (2017)—also plays out in the opposite direction, since the position it achieved in the Chinese market serves precisely to strengthen its position in the Latin American market. That is, a global construction based on corporate capabilities but contingent upon global synergy.

Huawei's strategy is unique for Mexico. In general, the majority of foreign MNCs in Mexico seek efficiency through export manufacturing (maquiladoras and automotive firms for example), while the rest aim to expand the domestic market—service MNCs (e.g., in the form of retailers such as Walmart)—incentivize their technological assets (to synchronize manufacturing with R&D and design, such as Aptiv-Delphi), or search for natural resources (e.g., Nestlé) (Carrillo 2012; Mortimore 2006). However, in the case of Huawei Mexico, the company follows a different trajectory based on innovation and, particularly, customization.

This unique trajectory is notable for its flexibility to adapt quickly to changing market conditions, as is the case of the trade war recently declared against Huawei by the Trump administration.

2 The Importance of Huawei

In 2013, Huawei's income reached \$38.9 billion worldwide, with 49% distributed between China (35%) and the Americas (14%) (Huawei 2013). In comparison, its sales in 2018 reached \$105.1 billion. In the same year, Huawei's smartphones captured 15% of the world market and it became one of the three giant global telephone companies; in China, Huawei occupies first place (Portillo 2019). The firm was born and expanded on the premise of gaining market share from competitors by adapting to client needs in a timely manner and by offering the lowest prices. This strategy was first developed in China, but it also applies in Mexico. It has meant developing capacity to customize and assemble at the greatest speed possible.

Huawei's production serves various specialized markets, all of which have great dynamism and are indispensable in the information society. This scope of markets has allowed the firm to become an articulator of digital ecosystems in several countries, the result of which is an organizational design able to adapt to the complexity of its global operations and attend to clients under the principle of direct relationships, offering better prices than competitors and greater flexibility. It involves a design of three organizational levels, where the corporate headquarters in China, regional headquarters, and field offices interact, in addition to establishing strong cooperative ties with companies and 14 R&D centers in various parts of the world.

The structure thus distinguishes between the business groups, responsible for the primary production, and the functional groups that provide services for the production of the business groups (Table 7.1). From their base in China, the functional groups are distributed worldwide so that production reaches the end customer through a controlled supply chain, while also operating on a decentralized basis by region. The field offices are charged with identifying local needs and driving the company's business.

Table 7.1 The global operating structure of Huawei

CEO	Business groups	Enterprise Terminals Carrier Cloud & AI
	Client functional groups (Partial example)	Logistics Manufacturing Technical support
	Internal functional groups (Partial example)	Procurement & quality IT support R&D Human resources Public affairs Finance

Source: Authors' elaboration based on interviews, see article note

Huawei has a pyramidal organizational structure. Tao et al. (2018) describe it as follows: “At the top of this pyramid are the leaders of the organization’s thought; at the next level is a group of business strategists and technology visionaries; the third is made up of hundreds of functional directors; below is management and R&D; and at the base of the pyramid there are more than 100,000 knowledge managers, the true strength and source of competitiveness at Huawei” (Tao et al. 2018: 49). This structure is both dynamic and unique, with a high turnover of CEOs, three leaders, and a change of managers every six to eight months (Portillo 2019). The strategy to rotating CEOs starts in 2011 (Wu et al. 2020).

3 The New Internationalization Trends and the Case of Huawei

The transfer of multinational’s R&D operations to outside of their country of origin that has been evident since the 1990s brought a new organizational challenge: the coordination of R&D operations in various parts

of the world (Cantwell 1992; Chiesa 1996). This internationalization process involving proximity to clients was laid out by Dunning and Lundan (2008) and then by Siedschlag et al. (2013), particularly for companies in the ICT (Information and Communications Technology) sector. On the other hand, the experience of new MNCs emerging from developing countries has enriched internationalization theory (Williamson et al. 2013; Dicken 1992; Hymer 1976; Frobel et al. 1981; Vernon 1966). More recent studies have been critical by pointing out that theories of the internationalization of firms from emerging and less-developed countries to developed countries “do not appear equipped to explain internationalization...as these firms are able without the ownership of specific advantages and without occupying a strong competitive position in the home country” (Parmentola 2017: 83).

Knowledge of foreign market companies is central to the internationalization process. In this sense, companies that internationalize under these new patterns develop comparative advantages that lie in R&D. Thus, they rapidly adapt global product technologies to the demands of specific clients and do so with short product cycles. This adaptation involves learning about local circumstances (Johanson and Vahlne 1977; Barbosa et al. 2014) and developing strong communication between local offices and the main R&D headquarters. In accordance with this, Parmentola (2017) shows that Chinese MNCs go abroad to overcome their competitive disadvantage rather than to exploit their ownership advantage.

The combination of marketing capabilities and R&D is known as customization and has been one of the characteristics referred to in the international evolution of Chinese telecommunications equipment companies (Fan 2006). In this context, Huawei has been the object of study as a key player in the internationalization of Chinese companies. Multiple authors (Wu and Zhao 2007; Xing and Huo 2014; Parmentola 2017) have studied Huawei's strategy, which is based on local market and industry circumstances and takes account of alliances formed to confront the competitiveness of Chinese companies. Huawei's alliance with International Business Machine Corporation (IBM) was crucial for the organizational aspects of internationalization (Xing and Huo 2014).

Huawei was formed within the context of the Chinese economic reform of the 1980s (Fannin 2013) that brought with it great economic

advantages for China, and especially for the Shenzhen area. During this period, the majority of companies were dominated by the state, but Huawei was an exception as it was a private business in the form of a cooperative, although it did receive help from the state in terms of land donation and contract adjudication.

Victor Zhang (2013), CEO of Huawei in Europe, indicates that the firm's development has occurred in various stages: the first involved the conquest of its domestic market, while the subsequent stages entail its internationalization. The bases of its competitiveness are its R&D, manufacturing, and logistics functions. This triad is essential in understanding the company's internationalization. Huawei's business structure is divided into three segments: business for the operators' networks; networks business for consumers; and business for companies. All three integrate ICT and unify systems of communication and collaboration.

Huawei's leadership in the ICT sector is evidenced by the firm's presence on a global scale (150 countries, 14 regional headquarters, reaching more than 180 countries, and providing 180,000 jobs) (Portillo 2019). In Latin America alone, Huawei has a presence in 14 countries with 19 regional offices, 3 software research centers and 3 training centers (Ellis 2013). The technical solutions offered in this region are largely based on its experience in China, where telecommunications infrastructure was unreliable, and consumers could not afford expensive products and contracts. Huawei, like ZTE, has been at the forefront of the market by offering extremely cheap cell phones and "distribution plans" designed for low-income people who traditionally do not enter into service contracts. As the firm has expanded, a decisive factor has been the financing of Chinese banking partners (Ibid.).

When comparing Huawei's strategies with those developed by the MNCs of other countries, Huawei's unique experience in the Mexican case is evident. While export manufacturing MNCs are characterized by trajectories that required heavy investment from the beginning, either to develop new companies or to acquire already established ones (e.g., Delphi USA, Thompson Europe, Sony Japan, Samsung South Korea, and even Hisense China), Huawei specialized in telecommunication services and started with a very low profile but with much more aggressive growth strategies than other companies. In this sense, the case of Huawei

seems to indicate a special internationalization strategy for its products, services, and its staff in Mexico. Furthermore, Huawei is extremely flexible, and is able to react quickly to new contexts, such as the new sociopolitical conditions created by the trade war with the USA.

4 The Digital Economy and Huawei's Challenges

The expansion of mobile phone consumption and its new uses have brought a transformation in telecommunications networks and a change in the dominant players, with an increase in data and drop-in voice transmission. "The consumer demand for the latest wireless devices and higher bandwidth are driving telecommunications services growth, while the shift to cloud-based solutions is enriching the value of the network" (Send2Press 2014). This growth in data traffic is being accompanied by a drop in operators' margins: from 50% in 2011 to below than 45% in 2015 (Ey Global Telecommunication Group 2013).

The competitive challenge for the sector's companies is, essentially, to monetize services associated with the new infrastructure, which means innovating and expanding coverage through infrastructure at the lowest possible cost. It is within this scenario that the company implements its strategy supplying hardware and software to the companies that compete as carriers.

The founder of Huawei, Ren Zhengfei, provides an interpretation of the competitive environment in which the information society is seen as a market. Its focal point is the phenomenon of big data, which has compelled the company to position itself as a leader in infrastructure building. For Ren, the battle over ultra-broadband (5G) is the final stage in the technological competition of the information society, and its implementation will open a new phase in which the best-placed companies will predominate. In the Internet market, Huawei occupies a privileged place as a producer of transmission infrastructure; hundreds of other companies are infrastructure operators and thousands more manage the information. Indeed, this can be seen as the productive pyramid of the Internet industry in which Huawei aims to maintain its privileged position.

Conscious of the challenges presented by the era of big data, the company has tried to use its advantages and create products with high standards of quality; its R&D capacities are aimed at laboratories “studying the approaches of adapting to disruptive technical innovations, as well as the ways of applying sustaining innovations to today’s technologies” (Huawei 2013: 5).

5G will revolutionize what we do with our cell phones and other devices. “All this in the end is about the management and protection of data ... the new wars are not going to be about oil... the data is the new oil. And whoever has control over the data controls the country” (Lissardy 2019). Huawei has invested heavily in such technology (Duan 2019), has vast experience, and is leading the race toward 5G technology (Busvine 2019). It has more than 16,000 patents in this field and an agreement for the development of 5G in Russia. In January 2019, the firm launched the world’s first 5G car module (Roberts 2019).

5 Huawei in Mexico

The company has had a presence in the Mexican market since 2001. The local fieldwork conducted for this chapter revealed that the business strategy for this complex structural organization—where spheres of local decisions are combined with those of the country of origin (China)—rests on three main pillars: (1) marketing activities and post-sales services; (2) assembly operations for mass and immediate distribution to the national and Latin American market; and (3) customization activities, which take place in the R&D center.

These pillars are based on three ideas: *embed*, *connect to Mexico*, and *for Mexico*. The idea of connecting relates to the general idea of being important builders of an ecosystem or digital country, thus Huawei incorporates connectivity, computing, artificial intelligence (AI), and devices. The company is structured in three business groups: Enterprise Business, Carrier Business, and Consumer Business (smartphones from 2G to 5G, other Wi-Fi, tablets, PCs, etc.).

The company’s local business structure began with two Chinese engineers sent by Huawei working in partnership with three Mexican engineers to produce new mobile phone designs. Its objective was Telmex,

although the first sale of its products was to the Mexican Social Security Institute in 2003. Both the company's narrative and journalistic sources regarding its evolution in Mexico are similar to the general story of its international expansion in emerging markets: efforts concentrated on specific potential clients, lower prices and shorter delivery times, adaptability to local conditions, and putting itself to the test for potential clients. The company positioned itself in the Mexican market over the course of a five-year process, beginning with the introduction of a group of Chinese technicians who sought business opportunities for Huawei's telecommunications technology with various companies. It created a climate of trust with its clients—via competitive prices, high quality, and adaptation to their needs—and provided consulting services to and trained the technicians in charge of implementing Huawei products in client companies (Dussel 2014).

Huawei began its operations in Mexico as part of its overall interest in Latin America; in 1998, it had moved into Brazil (China-Brazil Business Council 2013), and in 2002 into Venezuela, to cite two important examples. Accordingly, the presence of Huawei in Mexico must be understood both from the regional perspective of the company—its interest in this region—as well as from the perspective of the Mexican market itself. Thus, the company has various operations in Mexico that are part of both its global strategy as well as its strict pursuit of the local market.

The various interviews conducted indicated that Mexico is the seventh-most important country for Huawei, after the following countries: (1) China, (2) India, (3) United Kingdom, (4) Australia, (5) Japan, (6) Russia, and (7) Mexico (Huawei Technologies 2014); nevertheless, the sources also indicate that in terms of volume of sales, Mexico represents about 2% of Huawei's global market. Given that the main markets are for network infrastructure for the country's telecommunications companies, it can be argued that the primary strategy for Mexico is one of service for the expansion of telephone and cable operators in both the local market, as well as that of the region, and operating from corporate headquarters in Mexico for both the Latin American and local markets.

The size of the company's market and Huawei's expectations for that market in terms of its operations in and from Mexico is shown in the following data: in 2013, Latin America represented 10% of mobile phone income worldwide, double that of the previous decade,

and thanks to annual growth rates of 9% (Huawei Technologies 2014). Smartphone penetration reached 20% of the population, similar to global levels, and increased to 44% in 2017 (Huawei Technologies 2014). Technology turnover is still slow, but large growth is expected in 5G and LTE (Long-Term Evolution) technologies as a result of investments in infrastructure.

In Mexico, according to government information (SCT 2014), investments of US\$540.5 million will be made over ten years for the construction of a shared mobile services network that will use a 700 megahertz broadband spectrum, and US\$40.5 million for the fiber optic trunk network, which will broaden Internet coverage, and combine resources with the mobile services network: This is the business area the company is interested in.

Huawei's corporate offices are in Mexico City, which has a design and customization area consisting of a R&D center, a training center, a call center, and a cooperation lab. There are also offices in Monterrey, a manufacturing and logistics center in Guadalajara (finished manufacturing and assembly), and branch offices in Mérida, Puebla, Tijuana, and Querétaro (Huawei Technologies 2014). Finally, a regional software support center was established in Querétaro in 2014 which provides technical assistance to a large portion of Huawei's Latin American clients (there are two similar centers in China and Russia). In general, development is done in China and customized by local talent. The executive director in Mexico is Pengo Yang, who is of Chinese origin. The timeline of Huawei in Mexico is show in Table 7.2.

Table 7.2 Huawei Mexico: Timeline

2001	Huawei Start operations in Mexico City
2007	Training Center, Mexico City
2007	Querétaro Call Center
2010	Supply/Logistic Center in Guadalajara for Northern Latin America
2013	Manufacture Center (with Flextronics), Guadalajara
2016	Open Lab in Mexico City
2019	Manufacture Center (with Non-American company), Guadalajara
2019	Public Cloud Center in Toluca
2019	Global Assistance and Service Center in Querétaro (call center, R&D in house, technical support, and customer service for Latin America)

Source: Author's elaboration based on interviews, see article note

Between 2014 and 2019, the company directly employed 1200 people in Mexico (85% in Mexico City) (1600 including Guadalajara and Monterrey suppliers) and another 6500 indirectly (Portillo 2019) in the areas of manufacturing, sales, technical support, administration, R&D, and logistics. All direct employees are bilingual and are mostly professionals or technicians. Huawei Mexico offers benefits for senior executives such as savings funds, subsidies, food and dining rooms, and medical expenses, and it also offers support for rental accommodation for Chinese expatriates. The rest of the employees receive “above market” salaries and benefits (Monitor de la OFDI in China in ALC). The company has no union, and 60% of workers are hired under an outsourcing scheme. Work turnover is minimal. Eighty percent of employees are Mexican, and 20% are Chinese. The latter are highly specialized, and their number has been reduced over time. In fact, Huawei Mexico’s new strategy is to Mexicanize management and, in general, promote more Mexican content in staff and decision making in the subsidiary. Leaders of the subsidiary aim for the social perception of a technological enterprise rooted in the Mexican economy and aligned with local interests.

It is important to mention that every local employee at the management levels is paired with personnel of Chinese origin who interact in business and technological decisions and report to headquarters in China. This ensures co-responsibility and guarantees the transparency of communications and decisions; in addition, it facilitates the overcoming of cultural barriers and generates quick responses, a key factor in the firm’s competitiveness.

The two operating centers, one responsible for logistics and assembly, and the other for R&D, are described in the sections below.

5.1 Guadalajara Supply Center

Huawei supply centers form part of the company’s structure of international logistics. The centers’ support structures are strongly connected to manufacturing, as they are responsible for carrying out assembly operations where parts are adapted locally (customization). In order to do this, collaboration with regional offices is necessary. The operations centers

play a decisive role in Huawei's business strategy and combine the capacity of product production for final assembly from China with a logistical and assembly operation that is subcontracted by Huawei, and a regional delivery network.

The supply center of Huawei's northern Latin American region has been in Mexico since 2010; its basic duties are to consolidate inputs, do the final assembly of the various components² of the telecommunications networks (radio bases, boards, and parts), and send these to the installation location in accordance with the needs of clients in Mexico and the rest of the Latin American region (except for Cuba and Brazil).

The plant was established in Guadalajara in December 2013, with the goal of benefiting from the outsourcing strategy provided by Flextronics in its industrial park. Flextronics is a contract manufacturer and employed 250 people (67 from Huawei of which 50 were from China, and 183 were Flextronics personnel). In this case, Huawei operated under strict planning and monitoring of Flextronics activities; the contract was composed of 20% manufacturing and 80% logistical and maintenance services, providing a clear picture of the nature of outsourcing.

Nevertheless, the operations of this center in Guadalajara are not limited to the subcontracted assembly with Flextronics, but also incorporate logistical operations. In the case of logistics, it works with DHL, CEVA, and Kuehne + Nagel, and materials that do not come from China (9% of the total) are shipped by companies such as North Star, Volex, and so on. That is, it is a productive center that sustains a broad network of companies providing various services and tied to the administration of the value chain.

5.2 The R&D Center

Huawei's R&D center for the northern Latin American region is in Queretaro. It is one of the company's 31 R&D centers on a global level. Created in 2007, its mission is to adapt and/or create the software necessary for network elements, that is, the tele-informatic mechanisms that make up the structure of a network for the specific needs of carriers that acquire the company's telecommunications infrastructure. The R&D

center was conceived as a bridge between China and Mexico in order for Huawei to understand the particularities of the Mexican market, as it does with all its local markets. This was necessary if it was to create the software locally. Thus, its technical objectives are customization in the shortest time and at the lowest cost to offer the best service to clients.

The R&D center and the marketing department work jointly, with the first attending to client needs and the second determining the price of the services provided. Orders include the customization of software coming from China as well as the creation from scratch of software for specific local needs; most of the work done by the R&D center is customization (about 60% of the total), while new innovation accounts for about 40%.

Finally, Huawei selected Mexico as a center for Latin America and the Caribbean because of the available talent: engineering schools, support, industry knowledge, and newly graduated engineers. In order to fully benefit from these, the company has institutional cooperation agreements with Mexican universities such as the UNAM (National Autonomous University of Mexico) and Tecnológico de Monterrey. Huawei also has a program called *Seeds for the Future*, which consists of the company going into and supporting schools to ensure that students are trained in new technologies. Every year, Huawei identifies new talent in universities, and the ten best students are sent to China to be trained. They not only receive technical certification but also experience important cultural immersion (Wu Yu interview 2019).

6 Huawei's New Growth Strategies in Mexico

The recent evolution of the company has been through three processes in the Mexican market, according to information collected in interviews with Wu Yu (Vicente), the Public Affairs & Communication Director in Mexico City on October 9, and December 12, 2019. The first involved strengthening its investments in operational infrastructure; the second, sustaining its local telecommunications and devices markets; and the third entailed continuing its strategy to become a more inclusive company within the local context.

6.1 Strengthening Investments in Operational Infrastructure

Huawei's operational infrastructure has grown thanks to a new equipment assembly facility in the city of Guadalajara, a global service center in the city of Querétaro and a cloud computing service center in the city of Toluca. As part of Huawei's new growth strategy in the country, it ended its partnership with Flextronics, which had provided the assembly service, and opened a new plant associated with a Mexican company, also under the figure of contract manufacturer. This move was motivated by the uncertainty that resulted from the U.S. government's trade policy and the associated risk to its logistics operations in Latin America, given that Flextronics is an American company.

In addition, new functions have been added to its Mexican call center (Global Assistance Center), based in Querétaro. It has become a Global Service Center with a more complex organization that offers solutions to the Latin American region for equipment configuration, opening and remote delivery. Similar Huawei centers have only been established in China, India, and Romania.

Finally, Huawei endeavors to compete against new digital economy players while diversifying its markets. Like Microsoft or Amazon, Huawei has entered the field of cloud computing services, bringing solutions and security closer to Mexican and Latin American customers. In order to do this, a public cloud center was installed in the city of Toluca (near Mexico City), which joins other centers in Brazil and Chile.

6.2 Sustaining the Local Telecommunications and Devices Markets

As part of its efforts toward the local market, Huawei's commercial expansion rests largely on the government's policy of creating a high-speed wholesale network, despite the fact that it has been slow to implement. The company shares the endowment of telecommunications equipment in the network with Nokia, with a clear and crucial geographical division: The Finnish company

supplies the north of the country, while the south, that is, away from the U.S. border, is the Chinese company's responsibility.

Another important commercial boost experienced by the company, is its relationship as a provider to AT&T in its growing local telephony market following the withdrawal of the Spanish company Movistar from the direct operation of its Mexican market and partnership with AT&T. Its clientele has been transferred to Huawei.

Overall, the telephony market in Mexico has maintained its dynamism of recent years, with more aggressive business models based on higher consumption of smartphones, under the leadership of Telcel (74.4 million lines at the end of 2018), followed by AT&T (16.4 million lines in addition to the 25.5 million from Movistar) (Pandaancha 2020).

Finally, Huawei is introducing a new brand of Honor cell phones, in order to compete in the mid-range cell phone segment, against Xiaomi phones.

6.3 The Search for Greater Inclusion in the Mexican Context

Huawei's strategy to become a more inclusive company within the local context has two fields of action in the organizational arena. On the one hand, the company is promoting greater autonomy for each division: directors increasingly delegate functions, and each division is responsible for its own business; and on the other hand, they aim to Mexicanize the management team. The company anticipates that in the future Huawei will be a "Mexican company." Currently the executives of the legal, security, and regional vice-presidency areas are Mexicans.

On the operational level, concrete initiatives for human resources training and collaborative spaces have been established to develop a local digital ecosystem, with the expectation of bringing together 200 stakeholders over the next five or six years. In 2016, the company established the Open Lab, a cooperation lab within the Enterprise Business Group, in which Huawei partners, or those who intend to be partners, work with the company to test, monitor, and tune the technologies that they will share. It also has a show room with smart technology displays for the

urban environment. The company is also helping the states of Quintana Roo and Zacatecas in the matter of smart cities.

Huawei's quest for greater inclusion is summed up in three objectives: to *root* the company, to *connect* Mexico, and to *perform* for Mexico. Both in recent interviews and in previous ones, an important social objective of the company was highlighted: that Huawei has been identified as a telecommunications company connected to multiple Mexican interests, rather than simply a foreign firm selling in Mexico. Part of this objective was recently achieved when the company appeared on the traditional list of the business magazine *Expansion*, ranked 108th among the 500 most important companies operating in Mexico in 2019 (*Expansion* 2020).

7 Conclusions

This chapter has shown the most important characteristic processes of the Huawei enterprise as an example of the new phase of internationalization coming from emerging countries and productive sectors in the global economy. As Huawei sought to approach less complicated markets in the initial stages of its internationalization strategy, its first steps were directed at less-developed regions and countries. Its strategy consists of establishing itself in a country (Mexico), gaining the trust of its clients through innovation, lower costs, and greater speed of deliveries, as well as through a close commitment to customers. Customization and product delivery thus play a critical role, considering the branch's (Huawei Mexico) links to its home base in China—birthplace of the innovations.

In the case of its branch in Mexico, the company has a threefold commitment: attend efficiently to the local markets and to the relationship with the home base; assembly and distribution; and the R&D center and global service. These are at the heart of Huawei's business: telecommunications hardware and software.

Finally, Huawei's strategy in North America no longer considers the USA for future growth in clients; but rather, it is looking to other countries and companies, including a recently opened public cloud based in Mexico. This new strategy is due to the Trump's trade war against Huawei

initiated in March 2019 (Pham and Horowitz 2019). Although this resulted in a 40% drop in Huawei phone's sales internationally (*El Economista* 2019), it also had a positive effect, as pointed out by a Huawei Mexico manager: "an important publicity for Huawei, since "everybody knows who Huawei is nowadays" (Portillo 2019). Moreover, rather than a diminishing outcome as a result of the trade war, Huawei's customers, volume of sales, investment, and employment in Mexico have increased. The company has a change in strategy to depend as little as possible on American companies (thus replacing Flextronics, an American company, or developing of its own cloud). This strategy in Mexico is consistent with Huawei's global strategy: boosting its own mobile operating system in the face of the ban on using software from the U.S. companies such as Google (Expansión 2019). In this way, the upgrade process achieved by Huawei in its subsidiary in Mexico has been strengthened by not only its aggressive increase in technological capabilities, but also ironically, by the decisions taken by the Trump administration.

Huawei's commitment to Mexico is to concentrate important resources to support processes that will consolidate it as a global company in Latin America and particularly, in Mexico. The firm does not see a tradeoff between growth through specialization and diversification, as diversification supports both its growth and local consolidation. Mexico has the 10th highest population in the world and is the 11th largest economy, in addition to be a neighbor and commercial partner of the USA, which is home to the leading companies that cooperate but also aggressively compete with Huawei for both today and tomorrow's market. Despite the difficulties in growing the digital economy in Mexico over the past few years, the socioeconomic conditions of the country are now conducive for infrastructure and capabilities for the information society and economy to take off. The current government has an explicit commitment to expand the telecommunications platform for economic and social development and this provides fertile ground for this multi-based company, capable of moving assets and qualified employees in order to occupy a central role in the future Mexican digital ecosystem.

Notes

1. In the field of telecommunications, it competes with Ericsson, Cisco, and Alcatel-Lucent for the same markets, and is a provider for 45 of the 50 most important operators in the world, serving, with its products and services, a third of the world's population.
2. In terms of value, around 90% of assembly components come from China, in monthly shipments of 60 containers.

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8

Assessing the Impact of the Huawei Brand on the Information Communication Technology Infrastructure of Ghana

Kwame Ohene Djan
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1 Introduction

Chinese technology giant Huawei Technologies (hereafter Huawei) has established its presence on the continent and became the foundation of Africa's telecom infrastructure. In 2018, Huawei generated \$5.8 billion in revenue in Africa alone, 60 percent of which was through the sale of equipment and services and 40 percent through its phones. Focused on the great and rising demand in mobile phone business in Africa, Chinese multinational telecom companies operating in the continent are changing the telecom industry hierarchy by putting pressure on their main competitors in this area with their low-cost mobile handsets and telecom equipment. Globally, Huawei's market share was around 18.6 percent of unit sales in third quarter of 2019, up from 14.6 percent in 2018 (Holst

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2020). Generally, Huawei's performance in Africa has been tremendous since 1998 when it commenced operations on the continent. An early study by Sagalbayeva (2011) revealed that Huawei is not only closing in on Ericsson in terms of global revenues (US\$28.1 billion and US\$28.4 billion respectively in 2010), but Ericsson also saw a consistent decline in the volume of sales it generates in sub-Saharan Africa in 2010.

While investing in Africa, Huawei is more focused on customers' needs and preferences. Customer-based strategy is the main element of the company's success in Africa. A better understanding of local population's needs and rapid responsiveness to satisfy such needs, competitive prices, intra-governmental relations and partnership with local telecom operators help Chinese telecom companies in Africa to win trust and reliability among African customers. Pricing strategy remains important for Chinese telecom companies in Africa. According to Wilson Yang, Huawei's former head of operations in West Africa, Huawei manages to achieve tremendous margins by pricing itself only 5–15 percent lower than its international competitors (Chang et al. 2009). In Ghana, Huawei is the largest Chinese telecommunication company, which is an entirely employee-owned company; though others have argued, it has a close connection with the Chinese government (Kernen and Lam 2014). Although, the Huawei brand has, for some time now, been battling global scrutiny over its telecom equipment, the company's rapid growth in smartphone business cannot be overemphasized (Awusah 2019). At the launch of the new Huawei Y9 Prime 2019, marketing manager for Huawei Ghana, Dennis Laryea, says his outfit has identified an increasing desire for affordable smartphones in the country: "Some few months ago we launched the Huawei Y7 Prime and then customers were hungry for even a better device at a lesser price so we said, let's get them what they want" (Ibid.). Laryea added, "We are a customer-centric company and so we listen genuinely to the customer; once they demand, we give them." A recent survey by the Pew Research Center revealed that about 80 percent of Ghanaian Adults own mobile phones. Out of this total, about 35 percent use smartphones while 45 percent use standard cell phones. This statistics places Ghana as the second to South Africa in terms of smartphone usage in sub-Saharan Africa, which recorded 51 percent penetration among its adult population (Elliot 2019).

Most of the established IB literature has assumed or taken the perspective of how multinational companies (MNCs) from developed economies successfully enter and effectively compete in other developed or developing countries. With the current rise of MNCs from emerging economies, more attention is now being directed toward emerging economy MNCs and what drives the internationalization of these companies (Bartlett and Ghoshal 2000; Luo and Tung 2007).

Departing from traditional international business theories, which typically explains the internationalization process of Developed Economy Multinational Companies (MNCs), Sun (2009) proposes three internationalization strategies that characterizes Emerging Market MNCs. He proposes that Emerging Market MNCs “(1) tend to nurture their capability in the domestic market as a base before internationalization; (2) prefer to enter markets with fewer barriers in cultural, technological, economic, and institutional distances to accumulate experience and move up the value curve; and (3) use inward and outward linkages to complement their strengths and offset their weaknesses in the global market” (Ibid.: 129). In the case of Huawei, Sun (2009) notes that, in relation to Proposition 1: Huawei develops its capabilities by concentrating on cutting costs, raising productivity, and ensuring a strong cash flow from its domestic market. This low cost and high productivity help Huawei compete with global giants of telecom equipment providers in the international markets. Concerning the Proposition 2, he observed that, after retreating from America in the early 2000s due high institutional distance, Huawei resorted to accumulating sufficient sales in developing countries, especially in Asia Pacific, Africa, and the Middle East, which have a low distance from China then Huawei invades prosperous developing economy markets again (Ibid.). Thus, even though, “four dimension distances raises the costs of Emerging Economy MNCs, the latter can accumulate capability through sequential entry from lower distance countries to higher distance countries” (Ibid.: 148). Moreover, As Proposition 3 predicts, Huawei builds many kinds of inward-outward linkages. From allying with 3Com to compete with Cisco, joint venturing with Symantec, partnering with Bain Capital to bid an American company, teaming up with Google, and participating in international standard settings, Huawei shows increasing skills in accessing new

markets, acquiring intangible assets such as brands and M&A experience, and experimenting with new business models (Ibid.: 149).

The purpose of this chapter is to provide an empirically grounded assessment of Huawei's contribution to Ghana's ICT (Information and Communication Technology) infrastructure. China's renewed media engagement in Ghana has resulted in the direct intervention of Chinese companies in the media and telecommunication sectors through the provision of loans, equipment, and technical expertise (Gagliardone et al. 2012). As a leading multinational Information Technology (IT) company in Ghana, Huawei is increasingly expanding its market share of the Ghanaian telecom industry through public-private partnerships. For instance, in response to the principles that emerged from international forums such as the World Summit on the Information Society (WSIS), held in 2003 and 2005, the Ghanaian government launched the e-government project, which happens to be one of the most ambitious in sub-Saharan Africa (Ibid.). This project sought to provide a better underground fiber optic backbone to allow economic growth (Akakpo 2008). The envisioned cost was US\$180 million, provided by China's Exim Bank through two concessionary loans of US\$30 million in 2008 and US\$150 million in 2010. The Chinese telecom giant Huawei was awarded the technical realization of the project, while Ghana's National Information Technology Agency (NITA) was tasked with overseeing the project's implementation. The e-government project uses a combination of solutions to adapt to the different conditions characterizing Ghana's topography and infrastructure development (Akakpo 2008; Gagliardone et al. 2012).

Aside from its involvement in government IT initiatives, Huawei has provided smartphones that are among the most popular brands on the Ghanaian mobile phone market today. The goal of this study is among others: first, to assess the contribution of Huawei toward Ghana's ICT Infrastructure and, secondly, to evaluate the performance of the Huawei brand on Ghana's mobile phone market.

To achieve these study goals, we first interviewed the top management staff of the Ghana's Information Technology Agency. With this first exercise, the researchers sought to understand the socio-economic impact of government's dealings with the Chinese telecom giant over the past years.

Additionally, we administered a semi-structured questionnaire to a sample of mobile phone vendors operating within the two largest cities of Ghana, namely Accra and Kumasi. The latter was conducted to evaluate the relative performance of Huawei phones vis-à-vis other brands on the mobile-handset market. Analysis of our field data suggests that, by far, Huawei is the largest foreign IT company with significant investments in Ghana's total IT infrastructure managing and controlling the nation's central datacenter. With the mobile telephone market, Huawei phones are considered to be of high quality with its unique performance features. On the other hand, customers and potential customers of Huawei mobile phones consider its prices relatively higher comparing with other brands. Moreover, upon further interactions with a key stakeholder in Ghana's ICT infrastructure development, we discovered that, the ongoing cold tech war between the US and China may not have any significant impact on the operations and profitability of Huawei in Ghana.

2 Evolution of ICT in Ghana

Information and communication technologies have assumed a central position in the development agenda of most countries due to their critical roles in facilitating socio-economic development. Their contributions to enterprise development have been recognized, and international organizations have called on developing countries including Ghana to develop policies that will integrate ICTs into enterprise development. Ghana has developed a national policy on ICTs, which is to transform Ghana into a middle income, information-rich, knowledge-based, and technology-driven economy and society (Frempong 2007).

In the past, most political and development planners classified ICT as a luxury service, and therefore, for many emerging economies, ICT did not feature prominently in the national strategies for socio-economic development. However, in the contemporary world, ICTs are increasingly seen as key elements for development. The contributions of ICTs to general economic development are varied, but the key elements include facilitating social change and economic activity, improving quality of life, bringing cost-benefits in rural social service delivery, enabling political

participation, promoting good governance, and transparency (PANOS Institute 2004). ICT, therefore, has a significant role to play as an enabler of socio-economic development, as well as providing a fundamental support for effective governance of the political system. It also plays a vital role to enterprise development. ICT has always been acknowledged as one of the main instruments in upgrading a firm's technological capability, while many studies have uncovered its critical role in pushing the technology catch-up in developing countries (Fu and Hou 2015).

Since the early 1990s, Ghana has considered the use of ICT as a means to leverage the country's development process. To this effect, a first five-year plan for accelerated development was launched in 1994. More recently, Ghana has developed its ICT for Accelerated Development (ICT4AD) policy statement, which was officially adopted in 2004. The ICT4AD took into consideration of Ghana's Vision 2020 Socio-Economic Development Framework, the Ghana Poverty Reduction Strategy (2002–2004), and the Coordinated Programme for Economic and Social Development of Ghana (2003–2012). The ICT4AD is a product of the National ICT Policy and Plan Development Committee set up by the government to develop an ICT-led socio-economic development policy for the country. It aims to help Ghana to formulate a number of socio-economic development policy frameworks and a few key developmental objectives to address the developmental problems facing the country (Ghana Government 2003). Of these policy frameworks, promoting investment, innovation, R&D (research and development), and diffusion of ICTs within the economy are some of the top priorities (Ghana Government 2003). As a result, there has been a rapid growth of ICT adoption in local business, which has also been widely used to facilitate innovation activities.

A report launched by e-commerce company Jumia revealed that Ghana is one of Africa's largest mobile markets, with about 34.57 million subscribers and a penetration rate of 119 percent (Tamakloe 2018). According to the Annual Report by Jumia 2018, Ghana's mobile phone subscription is expected to hit about 40 million in the next two years. With such growth rate, it is projected that Ghana's mobile penetration is going to hit above 130 percent by 2020 (Ibid.). The report indicated factors that influenced this growth include the rapid interest in social media, a general drop in smartphone prices,

availability of easy payment platforms, and the growth in e-commerce and online retail platforms (Ibid.). Further insights from the Jumia's Annual Report reveal that there are 10.11million active Internet users in Ghana, meaning nearly one-third of the country's population have access to the Internet (Ibid.). Speaking to JoyBusiness, Ore Odusanya, CO-CEO of Jumia Ghana noted: "The main catalysts for this rise in the number of people with access to mobile phones and internet usage have been attributed to the recent push for telecommunication companies to expand their network coverage, the availability of cheap smartphones from China, and a robust legal regime" (Ibid.).

By drawing a sample of 246 consumers in Ethiopia, Sata (2013) investigated the factors that affect the decision of buying mobile phone devices. The study revealed that consumer's value price followed by mobile phone features as the most important variable among all and it also acted as a motivational force that influences them to go for a mobile phone purchase decision. As part of the objectives of this chapter, we elicit from a sect of phone vendors within the two biggest cities in Ghana (Accra and Kumasi), with focus on the key factors that attracts customers to (or drives away from) Huawei mobile handsets.

In the developing country context, a group of literature have focused intensively on the ICT capability and its impact on firm performance (Bhagwat and Sharma 2007; Bresnahan et al. 2002; Brynjolfsson and Hitt 2000; Dewett and Jones 2001). Although ICT has been evolved to support new business strategies (Henderson and Venkatraman 1999), the adoption of ICT in Ghana still plays its major role in traditional back office. Given the lack of internal technological capability and limited innovation resources, the adoption of ICT does not guarantee the knowledge creation within the firm. In the following sections, we address the research questions for this study: first in Sect. 3, we examine the role played by the Chinese telecom giant toward the adoption and development of ICT in Ghana; and Sect. 4 presents the empirical assessment of how the Huawei brand performs on Ghana's mobile phone market compared with other phone brands. Additionally, in Sect. 5, we elicit information from key ICT development players to analyze the possible effects of the US sanctions against China on Huawei's operational performance in Ghana.

3 The Role of Huawei in Ghana's ICT Infrastructure

As aforementioned, Huawei remains the leading foreign partner to Ghana as far as the provision of ICT infrastructure is concerned. Historically, Ghana's media engagement with China has been facilitated mainly through a public-private partnership between Ghana's National Information Technology Agency on the one hand and Huawei on the other hand. Our interview with the Deputy Director-General of NITA revealed that Ghana has been actively advancing an agenda of economic transformation and industrialization. The country's business environment is improving, and this has allowed the ICT industry to play a key role in driving economic development.

Thus, the general level of ICT infrastructure development in Ghana has grown exponentially and the ICT ecosystem continue to expand, especially in the area of data and voice calls, datacenter, and general level of ICT awareness. According to the Executive Director, by leveraging on ICT, this growth in ICT stems from an extensive international community involvement coupled with the vision of successive administrations of Ghana to boost economic development. Some major international partners include DANIDA (Danish International Development Agency) and Huawei. Indeed, the government of China has played a significant role toward advancing Ghana's ICT infrastructure. According to NITA's assessment, 70 percent of the country's current ICT growth is attributable to China through Huawei Technologies, which dates back to 2008 following the launching of Ghana's e-government project with the provision of cell sites (Akakpo 2008). He continued: "As a leading global ICT provider, Huawei has pioneered the contribution to national construction of Ghana and has been involved in a number of important ICT projects that are vital to our economic well-being. Huawei has made great contribution to boosting ICT infrastructure, expanding connectivity, and advancing our digital agenda in Ghana" (Ofori 2019).

Since it entered the market in 2001, Huawei has been working with the government and local operators to provide secure, stable, and high-quality communications networks for the Ghanaian people. Huawei has

been contributing to the country's digital transformation, and currently serves the majority of the country's population with its products and services. Huawei has also endeavored to fulfill its corporate social responsibility using its ICT technologies and capabilities. The company always attaches great importance to basic research, openness, and collaboration. In consonance with its principle, Huawei has been setting up joint innovation centers locally and working with major local universities. However, the major concern, along with this elaborate and intrusive role of Huawei including provision of long-term maintenance of equipment and the lack of compatibility of its equipment with others, and the security of the stored data, is that it creates a perpetual dependency for the country (Ghana), as it robs the society the ability to develop the technical know-how to maintain the equipment as well as secure stored data.

The observation of the Executive Director appears to support the reported China's strategies. To the Chinese, rapid responsiveness of the personnel and high customer services are also key elements in Chinese telecom companies' strategies to operate in Africa. In order to satisfy local populations' needs, Huawei always collaborates with its local telecom partners to establish and control if the base stations are placed in rural areas. After providing customers with telecom network equipment, Huawei often offers long-term maintenance services to ensure the reliable operation of local networks (Yan 2011).

4 How Does the Huawei Brand Perform on Ghana's Phone Market

We administered a semi-structured questionnaire to 180 mobile phone vendors operating within Accra and Kumasi, the two most populous cities in Ghana. Among other facts, the study sought to identify the sales performance of Huawei phones in relations to other brands on the market and to inquire on the major compliments and/or complaints given by users of Huawei handsets.

Table 8.1 presents the background data of the phone vendors we interviewed. Of the 180 respondents, 99 (55 percent) were males and 81 (45

Table 8.1 Background data of respondents

Item	Number	Percentage
<i>Gender</i>		
Male	99	55
Female	81	45
Total	180	100
<i>Age</i>		
0–20 years	27	15.5
20–29 years	108	62.1
30–39 years	30	17.2
40 years and above	9	5.2
Total	174	100
<i>Education</i>		
SHS/O & A Level	117	65
Diploma	45	25
Degree	18	10
Total	180	180
<i>Tenure of work</i>		
0–5 years	141	78.3
6–9 years	30	16.7
10 years and above	9	5
Total	180	100
<i>Position at work</i>		
Management staff	129	71.7
Non-management staff	51	28.3
Total	180	100
<i>Brands of phones on sale</i>		
Huawei and 1 other brand	18	10
Huawei and 2 or more other brands	162	90
Total	180	100

percent) were females. Majority of the respondents were between the ages of 20 to 29 years (62 percent) and most of them had only attained up to a senior high school-level education (65 percent). Again, 78 percent of the respondents indicated that they had been working as phone vendors for a period not exceeding five years and about 72 percent were occupying management positions in their shops. Moreover, as illustrated in Table 8.1, a significantly higher number of the vendors (90 percent) sell two or more brands of phones in addition to Huawei-branded handsets. Apart from Huawei, other notable phone brands on Ghana's market include Techno, Infinix, Samsung, Apple, Sony, Alcatel, and a few others.

Table 8.2 Sales performance of Huawei phones

	<i>N</i>	Min	Max	Mean	Std. Dev
Qty. of Huawei phones sold per week	138	1.00	435.00	15.00	63.15
Vol of Huawei phones sold per week (GHS)	135	550.00	217,500.00	9682.00	32,096.67
Qty. of other phones sold per week	147	1.00	752.00	29.82	112.43
Vol of other phones sold per week (GHS)	141	400.00	303,000.00	17,529.15	49,934.10
Qty. of Huawei phones sold per month	138	5.00	800.00	33.93	115.50
Vol of Huawei phones sold per month (GHS)	123	3000.00	435,000.00	24,018.29	66,569.15
Qty. of other phones sold per month	147	3.00	1480.00	68.98	225.10
Vol of other phones sold per month (GHS)	132	1600.00	838,000.00	56,751.14	156,805.63
Valid <i>N</i> (listwise)	123				

Furthermore, as outlined in Table 8.2, the vendors sold an average of 15 Huawei-branded phone handsets valuing around GHS (Ghanaian cedi) 9682 each week; in comparison, an average of 30 pieces of other phone brands were sold, valuing around GHS 17,529. In terms of monthly sales, an average of 34 Huawei phones valuing GHS 24,000 versus 68 other phones valuing GHS 56,751 were recorded. These sales patterns clearly demonstrate Huawei phones enjoy a favorable competition (about one-third) in Ghana. This is an impressive performance considering the variety of phone brands that have flooded the contemporary Ghanaian market.

Additionally, we reviewed a selection of Huawei phone users to find out their preferred features on Huawei handsets and to identify any peculiar problems with the brand and suggestions for improvement. As shown in Table 8.3, the major attractive features of Huawei handsets include its camera quality, long-lasting battery, and radio features. In terms of complaints, the majority (54 percent) of the clients interviewed complained about the relatively high prices of Huawei phones compared with other brands. Other significant complaints were related to poor performance. As one respondent indicated, “my phone often freezes and have to restart

Table 8.3 Other inquiries

Item	Number	Percentage
<i>Preferred features</i>		
Radio	9	5.3
Camera quality	57	33.3
Battery	30	17.5
Radio, camera, battery, others	57	33.3
None	18	10.5
Total	171	100
<i>Peculiar problems</i>		
Price	93	54.4
Features	9	5.3
Performance	33	19.3
No problem	36	21.1
Total	171	100
<i>Recommendations</i>		
Pricing	63	36.2
Enhance features	60	34.5
Availability	15	8.6
Price, features, availability & more	33	19
No recommendation	3	1.7
Total	180	100

several times.” When asked what could be done to improve the customer satisfaction and sales performance of Huawei handsets, about 35 and 32 percent, respectively, mentioned price reduction and enhanced features as areas of particular importance. About 10 percent of the respondents also suggested that the company must intensify its advertising and promotional efforts and make their phones more accessible to potential users.

5 Do External Events Pose Challenges to the Huawei Brand in Ghana?

While building a trustworthy brand outside their home market has always been a tough task for Chinese companies, it has become more challenging because of the ongoing travails of Huawei Technologies (Deng 2019). Google’s decision to withhold its Android software from

Huawei is being seen as the beginning of a technology Cold War that could compel African countries—in the future—to choose between the US and Chinese technology, analysts have told the BBC (Olewe 2019).

Huawei built huge swathes of Africa's current IT infrastructure and if the US is successful in crippling the company, the aftershocks could be very devastating for Africa's burgeoning tech sector that now relies on a company in Washington's crosshairs. (Ibid.)

Since 2018, US President Donald Trump has been leading a public campaign urging American allies to cut ties with Huawei, saying the company's technology, among other things, was a security risk because it allowed the Chinese government to spy. Recently, Vodafone, the world's second largest mobile operator, announced its decision to remove equipment made by Huawei from the sensitive core of its mobile networks in Europe after Britain decided to restrict the Chinese company's role in 5G (Reuters 2020).

While the recent concern about Huawei has been focused on communications networks in the West, there are also allegations of a previous security breach in Africa. Critics of Huawei operations point to a report in January 2018 in the French newspaper *Le Monde* that found the computer system at the African Union headquarters in Addis Ababa, most of which was installed by Huawei, had allegedly been compromised (Olewe 2019). The allegations were denied by the AU and Chinese officials. African governments, even those with close security relationships with the US, have mostly sat out of the debate about Huawei for obvious reasons (Cléménçot 2019). Huawei opened its first office in Africa in 1998 and has been credited for building at least 50 percent of Africa's 4G network (Australian Strategic Policy Institute, Huawei, IDC cited in Olewe 2019). In an interview with the BBC, Cobus van Staden, a senior China-Africa researcher at the South African Institute of International Affairs noted, "The scaling of Huawei's presence on the continent has been made possible by being the first company to exploit the potential of the IT economy in Africa, and having the wherewithal to support its projects" (Olewe 2019). Furthermore, "China's tied-aid conditions that requires

African governments to work with Chinese companies, has also helped it,” he added.

Huawei’s dominance and its relationship with governments in Africa could come in handy if the so-called tech Cold War between China and the US threatens its African operations. “Africa is the last tech market in the world and dominance in it would be key” (Van Staden cited in Olewe 2019). People in Ghana and other parts of Africa, where Huawei is a major player, are worried about being locked out of the Google ecosystem but Huawei could use the current situation to change the game. “Huawei could leverage on the current situation to change the calculus and develop software in languages that truly serve the African market,” Van Staden said (Ibid.). By far, the US has not demonstrated commitment to making products that are relevant for the African market (Cléménçot 2019). Most Africans are online today thanks to cheap Chinese phones, and many are more concerned about the price of the gadgets and other features—like a dual SIM-card phone, and long battery life—than an operating system (Olewe 2019).

In an interview with the Director-General of the Ghana-India Kofi Annan Centre of Excellence in ICT, Ghana’s first Advanced Information Technology Institute funded in 2003, on the implication of the US sanctions on Huawei, he was emphatic that it would not have any negative effect. He noted that Ghana telecom companies are using version 3 (3G) and trying to get version 4 (4G). Hence, to many Ghanaians, 5G is of no use. Besides, it is a fight between China and US for market dominance and to the average Ghanaian, it is about affordability and basic features. According to him, 5G is the fifth-generation wireless technology for digital cellular networks that was widely deployed in 2019. As with the previous standards, the covered areas are divided into regions called “cells,” serviced by individual antennas. Virtually, every major telecommunication service provider in the developed world has either deployed or is about to deploy it soon. The frequency spectrum of 5G is divided into millimeter waves, mid-band, and low-band. Low-band uses a similar frequency range as the predecessor 4G (Adu-Gyan 2020). According to the Director-General, “at best this is where the Ghanaian telecom companies may be aiming and this will not in any way impact negatively on Huawei’s presence and operations in Ghana” (Ibid.).

Put together Africa, and for that matter Ghana, is not of strategic importance to the US tech industry. Besides, given that 5G networks are not yet relevant for Africa, “operators will aggressively deploy 4G, particularly with Huawei. But this product line should not be affected by the US sanctions” (Zibi cited in Cléménçot 2019).

6 Conclusion

Over the past two decades, Ghana has embarked on a massive campaign toward the adoption of ICT in propelling its economic development agenda. Currently, the country can boast of an enhanced accessibility in ICT in areas of data and voice calls and a general awareness of ICT especially among the youth. ICT innovations have improved service delivery especially in terms of online payments, mobile banking services, and so on. The success is largely attributable to the several years of public-private partnership between the governments of Ghana and China. Ghana has on its part used its state agency: the National Information Technology Agency as an intermediary in this pact, while the Chinese government has used Huawei Technologies as its major vehicle to assist in providing equipment and technical expertise toward boosting Ghana’s ICT infrastructure. The purpose of this study was to provide an empirically grounded assessment of Huawei’s contribution to Ghana’s ICT infrastructure, and to evaluate the performance of the Huawei brand on the Ghana’s mobile phone market. Analysis of our field data suggests that, by far, Huawei is the largest foreign IT company with significant investments in Ghana’s IT infrastructure managing and controlling the nation’s central datacenter. With the mobile telephone market, Huawei phones are considered to be of high quality with unique performance features. On the other hand, users and potential customers of Huawei mobile phones consider its prices relatively higher comparing with other brands selling in Ghana. Globally, concerns have been raised as to whether the sanctions placed on Huawei would have a rippling dire consequence on the operations and profitability of Huawei. A number of American IT firms including Google have resolved to ban Huawei from using its Android software. Vodafone have also followed suit with its latest

announcement to remove Huawei's equipment from the sensitive core of its mobile networks.

However, as revealed in our interview with the Director-General of the Ghana-India Kofi Annan Center for Excellence in ICT, Ghana like many other African states appears to react differently to this cold tech war waged by the US against China and Huawei, specifically. Several factors account for this different reaction from Ghana and other states within sub-Saharan Africa. First, China, through Huawei, has a long history of considerable investments in the Ghana's IT ecosystem and currently manages and controls a significant portion of the nation's IT infrastructure. This dominance by Huawei has been facilitated by the China's tied-aid conditions that requires African governments to work with Chinese companies. Secondly, like many other Africans, Ghanaian phone users are more concerned about the price of the gadgets and other features—like a dual SIM-card phone, and long battery life—than an operating system. Huawei and other Chinese phone brands have taken advantage of this opportunity to supply affordable but high-quality mobile handsets to meet this demand. Meeting this peculiar African need has however not been a priority of the US. Overall, we agree with other observers like Julien Clémentot, the activities of Huawei in Ghana and Africa in general, will not be materially affected by the US-China trade war, provided Huawei strives to be innovative to develop a software that could adequately replace the US software.

Although this study is company-specific, other companies in the sector can be inspired from this study to improve their performance in the industry. The results are also specific to Ghana. However, many other African countries (and developing countries) face similar realities. So, the findings can also be useful to them.

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9

Huawei's Carrier Business in Southeast Asia

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1 Introduction

Being a long-time partner of many major telecommunication operators in the region, Huawei was able to establish ties in Southeast Asia successfully. This relationship came to a test when the U.S. imposed sanctions on leading Chinese technology companies like Huawei and ZTE. So far, Huawei seemed to have established loyal customers and is poised to remain a dominant player in the region.

This chapter discusses the history of Huawei in Southeast Asia and how Huawei followed a global and customer-centered strategy in creating a valuable partnership with telecommunication companies in the region. The next section discusses the presence of Huawei in Southeast Asia and how Huawei partnered with the telecommunication companies in Southeast Asian countries to provide their 3G and 4G network needs over the last years. The third section covers the potential effect of the

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U.S. sanctions on Huawei's business in Southeast Asia and how these sanctions might shape the rollout of the 5G business in the region. It also explores how Huawei's first mover advantage in the 5G technology enables the company to become a leader in the 5G race. Moreover, it also discusses how the U.S. sanctions against Huawei highlights the interaction of geopolitics and geo-economics in Southeast Asia. The last section summarizes and concludes.

2 History of Huawei in Southeast Asia

Huawei has gained market share in its neighboring Southeast Asian region with its global strategy of putting customers at the heart of everything it does. In the late 1990s, Huawei's entry in Southeast Asia was barely noticed as the company was dwarfed by industry giants like Nokia, Ericsson, and Motorola. Notwithstanding its size, Huawei was able to gain traction in the region by willing to do a lot more for its customers at a competitive price (Soo 2019). Early on, Huawei had this competitive advantage because most of its research was conducted in China, where labor cost was relatively cheaper than its competitors' R&D location. This strategy boded well in the emerging economies of Southeast Asia as customers are more price-conscious than customers in high-income countries.

Huawei established loyal customers in the region by offering unparalleled customer and community services. For example, during natural disasters, Huawei engineers go to disaster sites to help operators restore telecom services (Soo 2019). This is in addition to its financial contribution to disaster relief programs to help affected communities. Such level of service is uncommon in the industry. The following two examples demonstrate Huawei's customer and community services during natural disasters:

- In September 28, 2018, a strong earthquake and a subsequent tsunami hit the central island of Sulawesi in Indonesia, wreaking massive havoc and loss of lives. The calamity brought down telecom networks and

communication services in the island. Huawei's Global Technical Assistance Center (GTAC) formed a network recovery team that swiftly worked to restore networks. In addition, Huawei deployed an onsite repair team to help telephone operators repair the severely damaged network lines and key base stations. After 14 days, the onsite repair team restored 84 base stations and 3 backbone networks in 5 cities affected by the disaster (Huawei 2019a). In this situation, Huawei was able to help customers rapidly restore networks and ensure stable communications during disasters. Huawei's commitment to such social responsibility is their way of winning the hearts and minds of their Indonesian clients and overall community.

- From December 2014 to January 2015, the most significant and largest flood was recorded in Kelantan state, east coast of Peninsular Malaysia. It was considered to be a "tsunami-like disaster" (Su-Lyn 2015). Huawei partnered with Telekom Malaysia Berhad and Celcom Axiata Berhad, to assist in the disaster relief and recovery efforts for the communities hit by the flood. Huawei's engineers and technical team worked closely with operators to repair the damaged network and immediately restore service. Huawei also gave relief kit worth more than RM 500,000 that includes RM 350,000 cash donations, power generators, mobile power banks, skilled manpower, and hardware supplies for immediate service recovery to help flood victims and facilitate aid work (Huawei 2015).

Moreover, Huawei continued to gain favor in the community by investing in social programs and development initiatives, grooming local talent, and building local laboratories that provide jobs and contribute to developing economies. Huawei has initiated ecosystem partnership platforms (known as OpenLab) to allow collaboration and development of solutions for enhancing product competitiveness and value chain with customers. In Southeast Asia, Huawei has established OpenLab sites in Thailand and Singapore, 2 among the 12 in the world, offering information and communications technology (ICT) training, career certification, and Proof of Concept (POC) testing. As it provides a platform to exchange opinions, the OpenLabs were able to support startup incubation not just in Thailand and Singapore but in other surrounding

countries in Southeast Asia (Lin 2018). From 2006 to 2016, Huawei has set up in Malaysia a shared service center for Finance and Accounting for Asia, an Information and ICT training center, and an ICT innovation hub. Since its establishment in 2012, the training center has trained about 10,000 trainees, 60% of which were Malaysians, and its local clients include the telecommunication operators (Huawei 2019b). Because of the investment that Huawei poured in Malaysia, Huawei was appointed as an adviser to the government in developing the local talent pool for the ICT sector (Rahil 2019).

With high-quality customer and community services, Huawei started to become an essential provider of 3G and 4G network needs of telecommunication companies. The following lists some of the major pre-5G partnerships between Huawei and telecommunication operators in the region:

Philippines: In 2011, Globe Telecom selected Huawei, after a thorough evaluation and extensive deliberations of vendor proposals, as its partner in implementing a US\$700 million network modernization program. Globe and Huawei established a Joint Innovation Center (JIC) to learn network best practices and tap into the latest developments of the 17 research and development centers that Huawei has around the world (ABS-CBN 2011). In 2015, Globe contracted Huawei to be their partner in planning and designing of a wireless broadband network and a wireless innovation center (Rahil 2019).

Malaysia: Huawei is a long-time supplier of broadband routers, network controllers, and data center switches to Malaysian telecommunication companies (Kumar 2019). Maxis, the market leader in the telecommunications industry in Malaysia, has been working with Huawei for ten years. With the help of Huawei, Maxis was the first telecommunication company to bring 4G to the market (Jaszly 2019).

Indonesia: XL Axiata, one of the largest communication service providers in the country, has been doing business with Huawei since 2012. Huawei and XL Axiata has established full range cooperation covering all wireless/fixed network/core/value-added services (VAS), and ICT-managed services. The two partners recently renewed a five-year contract, authorizing Huawei to be the provider of operations, maintenance, and network performance management services in Indonesia (Huawei 2019c).

Vietnam: Viettel, which is owned by the Vietnamese military, bought 3G equipment from Huawei in 2009. However, the company no longer uses Huawei equipment in its 4G network (Clark 2019).

Singapore: Huawei has been working with the three leading telecommunication network providers in Singapore: Singtel, Starhub, and M1. With Huawei's help, the Singtel Group became the first mobile operator in the world to provide a commercial 300Mbps 4G service in July 2014 (Singtel 2017). To gain a better competitive advantage, Huawei started offering Trade-in Prices at Singtel, Starhub, and M1 in May 2019 (Lim 2019).

Thailand: Huawei has partnered with three major mobile network providers in Thailand: TrueMove H, Total Access Communication Public Co. Ltd. (DTAC), and Advanced Info Service (AIS). In 2013, Huawei Technologies provided core routers for DTAC, Thailand's second-largest mobile operator. This has allowed DTAC to upgrade its telecom equipment for faster and better services for its mobile telecommunications system users (Lightwaveonline 2013). Huawei has been working with TrueMove for 20 years now and is the 4G network equipment provider to TrueMove (TrueMove H News 2020).

Laos: Since 1998, when the company first started business in Laos, Huawei has partnered with many local telecommunication companies, including Unitel and the government. The state-owned telecommunication company, Lao Telecommunications Company (LTC), launched its 4G service in Laos in partnership with Huawei (J&C Group 2013). Huawei's communication network service covers 70% of Laos consumers. Huawei's mobile phones have the highest share of the Laos market (Cui and Liu 2019; Huawei 2018).

Brunei: Huawei has partnered with the two leading telecom providers in Brunei, Datastream Technology Sdn Bhd (DST) and Progresif Cellular Sdn Bhd to support Brunei's vision in becoming a Smart Nation (Othman 2019). Since 2010, the government started pushing telecommunication companies to update their ICT. The state-owned telecommunication company, Telekom Brunei Berhad (TelBru), hired Huawei to support rolling out the 4G network in Brunei (Oxford Business Group 2015).

Cambodia: Huawei has partnered with the three leading telecommunication providers in Cambodia: Metfone (from Viettel), Smart Axiata

(part of Malaysia's Axiata Group Behard) and Cellcard by Mobitel. In 2017, Smart Axiata Launched Cambodia's First 4.5G Network in partnership with Huawei (Huawei 2017). To make 4G devices more accessible to Cambodians, Cellcard rolled out a massive 4G LTE network expansion in 2017 along with Huawei and eight other partners (Cellcard 2017). Metfone rolled out its 4.5G network in May 2018, which was compatible with Huawei's smartphones (Chan 2018).

Myanmar: Huawei has been working in Myanmar even before the 2013 liberalization of the telecommunications industry when state-owned Myanmar Posts and Telecommunication (MPT) monopolized the industry. Huawei constructed 40% of the towers in Myanmar (Rasmussen 2013). As of 2019, Huawei's communications networks serviced 33% of Myanmar's population (Aung and Win 2019). After the telecommunication reform, foreign-owned mobile operators Telenor and Ooredoo entered the market. Telenor followed a multi-vendor strategy and partnered with Huawei as well as Ericsson and Wipro in developing its mobile phone network (Thiha 2017).

3 U.S. Sanctions and How It May Shape Huawei's Business in Southeast Asia

This section discusses the possible repercussions of U.S. actions on Huawei's carrier business in Southeast Asia. It considers how other factors (such as countries' relationship with the U.S., territorial disputes with China and regulatory policies) may interact with the effects of the sanction to shape the 5G business of Huawei in the region.

3.1 The U.S.-China Sanctions

With the much-anticipated transformative effects of the 5G infrastructure, countries in Southeast Asia are predicted to benefit from this new wave of technological development. The 5G-enabled faster mobile broadband connections and Fixed Wireless Access (FWA) can enhance consumer experience. For businesses, 5G's network slicing capability, low

network latency, and power consumption can bring about new ways of doing business and increase productivity. An AT Kearney analysis predicted that 5G could enhance financial performance of telecommunication operators by adding 6–9% to consumer revenues and 18–22% to enterprise revenues by 2025 (Venkataramani and Dobberstein 2019).

As Huawei became a dominant player in the global market and the 5G rollout race, the U.S. has accused Huawei of espionage and intellectual property theft. Huawei is now the world's top telecom supplier and second largest phone manufacturer after Samsung (Smith 2019; Strumpf 2018). Because Huawei heavily invested in 5G research since 2009, Huawei is known to be one to three years ahead of the 5G technology and is the largest global producer of 5G equipment (Songwanich 2019; Statt 2020). Despite the global popularity of Huawei, the U.S. have long considered Huawei as a security threat, contributing to a low market share of Huawei in the U.S. In February 2019, the Trump administration escalated its attack on Huawei by banning U.S. companies from doing business with Huawei. Huawei was accused of being used by the Chinese government for espionage. President Trump strongly warned other countries that Huawei potentially represents a grave national security risk.

The strategic plan *Made in China 2025* might have caused tension in U.S.-China relationship as it led the U.S. to analyze it as an intention to ratify unfair competition and place American businesses in an unfavorable position by promoting Chinese companies and limiting market access to international ones. This strategic plan was launched in 2015 in an attempt to move China away from the massive production mindset and being a world supplier to becoming a high-quality and high-value products and services provider. However, China might have abandoned this strategic plan as the 2019 annual government work report did not mention for the first time since it was launched (Crawford 2019).

As an important player in the telecommunication industry, Huawei stands to gain from the expected massive amount of capital spending by telecommunication operators to upgrade to 5G infrastructure. The 5G rollout will most likely begin with a non-standalone deployment in the first few years before embarking in a more expensive standalone 5G infrastructure (Venkataramani and Dobberstein 2019).¹ The non-standalone deployment will require a capital spending of \$13.5 billion up to 2025.

This massive capital would be needed to buy new antenna systems, radio infrastructure, and transport and core network upgrades, among others. While there are challenges like lack of 5G use cases for enterprise businesses, capital spending may even further accelerate as operators around the region move for standalone 5G infrastructure later. Huawei is well positioned to capture a significant amount of this spending.

3.2 Southeast Asia Countries' Relationship with Huawei

There has been an indicated preference against Huawei and other Chinese providers of 5G infrastructure network in Southeast Asia. Based on a survey of experts, analysts and business leaders in Southeast Asia conducted by researchers at the ASEAN Studies Centre at ISEAS-Yusof Ishak Institute, Samsung is the infrastructure developer of choice of most countries in the region except in Laos, Cambodia, and Malaysia where Chinese companies (Datang Telecom, Huawei and ZTE) are highly preferred (Tang et al. 2020). Ang Swee Hoon, an associate professor of business at the National University of Singapore, explains that Chinese technology brands seem “more cold” and have yet to build a “strong affective connection” with consumers (Sim 2019).

However, revealed preference may indicate otherwise. Given the strong partnerships that Huawei has nurtured in the region, Huawei seems to be well positioned to hold its reign in Southeast Asia. Most countries have indicated that Huawei is in one way or another a partner in 5G infrastructure. Some indicated that they are open to partnering with Huawei. Only Vietnam indicated that they are not going to partner with Huawei (see next subsection). The subsection below discusses recent 5G-related business dealings of Huawei in the following Southeast Asian countries:

Philippines: Benefiting from their long-time collaboration, Huawei seems to be the preferred partner of the two largest telecom operators (PLDT and Globe) in the Philippines moving forward. In June 2019, Globe was the first operator in Southeast Asia to launch 5G wireless broadband for Philippine households in selected cities. As this service was powered by Huawei chipset, Huawei shared this milestone with Globe

and made another mark in the region. In February 2020, both companies again showed strengthened collaboration as they introduced the first 5G-enabled smartphone in the Philippines.

The other largest provider in the country, PLDT (Philippine Long Distance Telephone Company), is not far behind in the 5G business. Like Globe, PLDT is working closely with Huawei to launch its own 5G commercial services that will be powered by Huawei and a “a bit of Ericsson” during the first quarter of 2020. PLDT chair and CEO Manuel Pangilinan said choosing Huawei made sense because of their current extensive use of the Chinese company's network gear (Inquirer 2019).

As Huawei cements its position in the country, competitors are struggling to regain leadership in the industry. In January 2020, Nokia announced that it is planning to close the R&D department situated in the Nokia Technology Center in Manila. The department focuses on software development for 4G and 5G networks. The closure is due to current hard conditions in Asia and the need to consolidate and organize in few locations (Camus 2020).

Malaysia: Similar to the Philippines, Huawei is the leading supplier for Malaysia's planned 5G network rollout by the third quarter of 2020. Huawei has recently signed memorandums of understanding (MoU) with multiple Malaysian telecom companies to lead 5G in the country. In October 2019, Maxis, one of Malaysia's biggest telecommunications companies, officially made Huawei its supplier of 5G equipment and partner in building the country's 5G network. In April 2019, Celcom Axiata signed an agreement with Huawei to deploy Celcom's very own 5G Innovation Hub to explore end-to-end transformation of the current 3G/4G network, evolving toward 5G (Kugan 2019). It is not clear yet who is the preferred provider of Celcom in its 5G rollout considering that Ericsson also worked with Celcom to power the first 5G hologram call in Malaysia in April 2019. It seems that countries like Malaysia are not concerned with data security accusation on Huawei (Bengali and Pierson 2019).

Huawei may gain or lose from Malaysia's policy direction to follow strategy that is focused on cost effectiveness. Maxis and Celcom signed a memorandum in November 2019 to share 5G network infrastructure (*i.e.*, 5G Radio Access Network) in order to prevent duplication of this

costly infrastructure (Maxis 2019). Such sharing is consistent with the strategy of the government of Malaysia to minimize cost to carriers and encourage them to provide speedier wireless networks. In fact, the government is following China's model of forgoing revenue from spectrum auctions and instead will allocate airwaves to a consortium of carriers via a tender starting after April 2020 (Nguoi 2020). The Malaysian government hopes that this approach will alleviate telecommunication companies' massive expenses on 5G infrastructure. This contrasts with the approach of raising hefty revenues from spectrum allocations in many countries. On the one hand, the joint sharing of infrastructure may decrease the potential revenues of Huawei in Malaysia. On the other hand, Huawei may benefit from the cost effectiveness strategy as reduced cost is its competitive advantage relative to other suppliers.

Indonesia: While Indonesia seems to be in no hurry to roll out 5G services, Huawei has yet to prove its leadership in Indonesia. In November 2019, Huawei and Telkom Indonesia, the leading telecommunications and network provider, signed a Memorandum of Understanding on a 5G Joint Innovation Program (Huawei 2019d). Huawei will collaborate with Telkom to see how they can improve Telkom's network architecture and explore use cases development. In addition, the Huawei and Telkom agreed to work together to provide public cloud services for the Indonesian market. Smartfren, another player, has signed an agreement with ZTE for 4G network expansion and 5G network trials while XL Axiata prefer partnering with multiple vendors for 5G equipment rather than depending on just one partner (Maulia 2019).

Huawei may need to wait to generate significant revenues in Indonesia as 5G adoption in Indonesia is hampered by the lack of spectrum availability and intense competition among telecommunication companies. Because there is no available frequency spectrum for 5G use, the government is considering using the 3.5 GHz band, which will only be available for 5G in 2024 (Maulia 2019). This means that the 5G rollout will not happen until then. Telecommunication operators also posted losses last year because of the intense competition. Until they make sure that they have recouped their investment on previous infrastructures and Indonesian consumers are willing to pay for a new wave of capital spending on 5G infrastructure, the telecommunication players in Indonesia

will likely have a wait-and-see attitude for now. To minimize cost of establish 5G network, consolidating the industry and/or following Malaysia's strategy of forgoing revenue from spectrum allocation and helping operators recoup their significant capital spending may be some of the solutions.

Singapore: Huawei will likely continue to play a significant role in the 5G rollout in Singapore. Singapore plans to start rolling-out 5G mobile networks by 2020, with full-fledged 5G standalone capability covering at least half of Singapore by end of 2022 (IMDA 2020).² Given that stand-alone infrastructure requires high capital spending, Singapore, with its small size, would be the first country in the region that is most likely to achieve such capability. The government will provide two 5G licenses to operators in 2020. All four major operators in Singapore (two submitting jointly) have applied to the license bid. After the U.S. sanction on Huawei, the government has not ruled Huawei out from participating in the development of the 5G network. In fact, Huawei has participated in a public consultation done by the government with industry players over its 5G rollout.

The three telecommunication providers in Huawei: Singtel, Starhub, and M1 will be launching their 5G networks in 2020 and will be working with multiple vendors including Huawei (*The Straits Times* 2020). Given that Huawei is already partnering with most of the major operators and Huawei is the most advanced in its 5G technology, it will be likely that Huawei will continue to play a significant role in the 5G rollout in Singapore. However, Singapore places an emphasis on vendor diversity and system security, Huawei will likely go through greater scrutiny and share the potential revenue gains with its competitors.

Thailand: As Thailand is eyeing to implement its 5G rollout by December 2020, Huawei is on track to be the main supplier of the 5G technology in Thailand. In February 2019, Huawei, Nokia, and Ericsson were invited to establish their 5G test bed in Thailand. While allocated offices of Huawei's rivals were still empty, Huawei was quick to establish its own. It has invested millions of dollars, set up their equipment, and has established the first 5G network in Thailand. Huawei remains to be the most attractive provider because of its low prices (approximately 50% of the price) and high-quality equipment. Djitt Laowattana (an official

from TOT, Thailand's state-owned telecommunications company) is worried that because of the much cheaper price, Huawei will beat all their competitors and become a monopoly over the 5G market in Thailand (Schmitz 2019).

High spending to get 5G licenses will likely force telecommunication companies to choose Huawei as their 5G equipment and service provider. In February 2020, Thailand conducted its 5G license auction, the first in the region. The operators (including state-owned companies) bid a combined \$3.1 billion at the auction for the spectrum required to set up 5G infrastructure. Unlike companies in Malaysia where license will be given for free, securing the license ate up a significant portion of the budget of telecommunication companies in Thailand (Tanakasempipat 2019). Because of tighter budget, these companies would be more compelled to choose Huawei.

Cambodia: All three leading telecommunication providers in Cambodia (Metfone, Smart Axiata, and Cellcard) will be launching their 5G network in cooperation with Huawei (Bunthoeun 2019). Smart Axiata, which serves 50% of the 16 million people in Southeast Asia, launched their first 5G trials cooperatively with Huawei in July 2019 (Thul 2019). Thomas Hundt, Smart Axiata CEO, said during the first 5G live trial showcase that Huawei is a trustworthy and capable partner to work with on launching the 5G network in Cambodia (Xinhua 2019). Metfone signed an agreement with the state-owned telecommunication company in Cambodia to share IT infrastructure and launch 5G trials in July 2019 (Warring 2019). In November 2019, Cellcard 5G announced successful trials of launching its 5G network in Cambodia as a standalone site (Cellcard 2019).

Myanmar: Myanmar's 5G market is likely to be spread out across 5G suppliers. Mytel (a joint venture of Myanmar's military and Vietnam's Ministry of Defense) has tested 5G technology with Huawei and hoping to launch commercial services in 2020 (Myint 2019). However, other providers have indicated that they will use other suppliers. Telenor is working with Ericsson, while Ooredoo has partnered with ZTE for 5G development in Myanmar.

3.3 The Consequences of Territorial Disputes with China and Alliance with the U.S. on Huawei's 5G Business

Telecommunications is a heavily regulated industry across the globe.³ Hence, government policies, influenced by geopolitical issues such as territorial disputes, may shape this market. In Southeast Asia, many countries have various territorial conflicts with China (see Table 9.1). The Spratly Islands located in the South China Sea are heavily contested by China, Malaysia, Philippines, Vietnam, and Brunei. As such, this may affect how the government may move for or against China (and Huawei).

Philippines: To break down the duopoly in the telecommunications market, the president paved the way for China Telecom to partner with Dito Telecommunity to be the third player in the domestic industry. Previous Philippine presidents considered the U.S. as the country's closest ally. However, the current Philippine President Rodrigo Duterte has adopted a friendly attitude toward China. This is partly influenced by the criticism he received from the U.S. for his war on drugs. The American embassy in the Philippines canceled the U.S. visa of Senator Ronald Dela Rosa. The senator related this to the alleged extrajudicial killings under his watch as president-appointed chief of the Philippine National Police from 2016 to 2018. In response, President Duterte also canceled the Philippines-U.S. Enhanced Defense Cooperation Agreement (EDCA), further distancing the country from the U.S.

The closer relationship between the Philippines and China bodes well for Huawei's business in the Philippines. In President Duterte's visit to

Table 9.1 Territorial disputes between Southeast Asian Countries and China

	Disputed territories
China vs. Malaysia	James Shoal, Spratly Islands
China vs. Philippines	Scarborough Shoal, Spratly Islands
China vs. Vietnam	Spratly Islands
China vs. Brunei	Spratly Islands

China in 2016, he brought a contingent of around 250 business executives, including Jaime Augusto Zobel de Ayala, a top executive of Globe Telecom. The trip aimed to build on existing linkages it held with Huawei (Chandran 2016).

Brunei: Brunei is prioritizing foreign direct investment over territorial claims. Because of the increasing preference for on-fossil fuels, the oil and gas-dependent economy of Brunei is seeking ways to diversify its sources of income. Some analysts see that Brunei is doing this by increasing trade with China and improving technology, such as the adoption of 5G (Bodetti 2020). Brunei has toned down its fight for its territorial rights to lure China into pouring foreign direct investments in Brunei. China responded favorably by including Brunei in their Belt and Road Initiative, a project to expand China's economic sphere of influence. Despite territorial disputes, Huawei's continued presence in Brunei will then remain uncontroversial.

Vietnam: Geopolitical and territorial disputes with China seem to matter only in Vietnam. The increasing aversion against China is due to allegations of cyberattacks by Chinese hackers on Vietnamese major airports and years of territorial disputes between the two communist countries. Despite a 2016 international tribunal which ruled the territorial claim of China (represented by the nine-dash line⁴) illegal, China maintains it has territorial rights within the line, which encircles Taiwan and areas claimed by the Philippines, Vietnam, and Malaysia. Unlike the Philippines, Malaysia, and Brunei, which prioritized economic relations with China, Vietnam is taking a stand against China.

Vietnam has banned Huawei from partnering with local businesses in its plan to develop and roll out 5G services. The country has also barred Chinese cars that have navigation apps displaying the controversial nine-dash line (Thao and Loan 2019). To ensure that pre-installed navigation apps in Huawei and other Chinese-made phones do not have the line, the government would inspect phones manufactured in China (Chau 2019). This action extends to academia, where book suppliers and universities are ordered to become stricter in checking books that may contain maps with the nine-dash line.

Thailand: The old close ally of the U.S. in the region, Thailand has grown closer to China in recent years. The U.S.-Thailand relationship

weakened when the U.S. criticized the established junta (*i.e.*, National Council for Peace and Order) following 2014 coup d'état launched by the military. The criticism was that Thailand has slid into false democracy authoritarianism. The leader of the junta, Prayut Chan-o-cha, has been in power since the coup and is the current prime minister of Thailand since 2019. As the alliance weakened, the Thai government has encouraged China to invest more in the country. In 2019, China became the largest source of foreign investment (Thongnoi 2020). This environment has helped Huawei do well in Thailand.

The Association of Southeast Asian Nations (ASEAN) seems to be discounting the warning of the U.S. against Huawei. According to ASEAN's Deputy Secretary General Aladdin Rillo, the members of the ASEAN would continue to consider Huawei as an important player in the region's 5G rollout and that the region's future partnership with China is justified by the proximity of both partners (Lau 2020).

4 Summary and Conclusion

While the carrier market was dominated by industry giants when Huawei started establishing its international presence, the Chinese technology company was able to penetrate the Southeast Asian market in the late 1990s. Huawei was able to successfully employ a global strategy—a business internationalization strategy focused on high cost reduction (by having its operating decisions centralized and standardized across the other countries) with some level of local responsiveness. Huawei's lower prices have been appealing to the price-conscious customers in the developing economies of Southeast.

Because of its strong brand equity, Huawei eventually changed from an industry dwarf to an industry leader in Southeast Asia—partnering with most major mobile network providers in the region. Huawei's strategy appears to follow the Customer-Based Brand Equity (CBBE) model which says that a strong brand is shaped by how customers were made to think and feel about the product. Huawei gained customer affection and loyalty by providing excellent customer services. It also made a clear presence in the community by investing in social programs and development

initiatives, grooming local talent, and building local laboratories that provide jobs and contribute to developing the economies.

In addition, the first mover advantage theory also explains Huawei's success in Southeast Asia. Huawei's research and development of 5G networks started years before other companies started theirs. As a result, Huawei has been able to differentiate itself as an innovative firm. Coupled with competitive prices, the advanced state of technology makes the company attractive suppliers in the region.

Huawei is poised to become the leader in 5G technology. The 5G technology is predicted to have transformative effects on users as it enables a significantly faster connection that can increase productivity and bring about new ways of doing things. As Huawei became a dominant player in the global market and the 5G rollout race, the U.S. has started to strongly consider geo-economics, particularly China's use of finance, investment, and trade to build alliances and gain influences in Southeast Asia and across the world. The geo-economic battle between these two economic superpowers eventually led to the U.S. accusing Huawei of espionage and intellectual property theft. President Trump strongly warned other countries that Huawei potentially represents a grave national security risk.

Except for Vietnam, the recent warning given by the U.S. to other countries had no significant effects on Huawei's 5G business in most countries in Southeast Asia. In the Philippines and Malaysia, the largest providers have already partnered with Huawei in their 5G rollout. Some countries like Singapore, Thailand, and Indonesia have not yet announced their 5G suppliers. However, Huawei is collaborating with the major operators in these countries in testing 5G networks and exploring use cases. Huawei is likely to beat all competitors because of the lower price and higher quality of its equipment. However, in Singapore, clear policy on vendor diversity and system security will likely temper Huawei's competitive advantage.

Geopolitical issues and territorial disputes with China seem to matter only in Vietnam, where Huawei is banned from partnering with local businesses in its plan to develop and roll out 5G services. The Philippines and Thailand have been U.S. allies. In more recent years, such alliances were weakened by political issues like U.S. criticism against Philippine

President Duterte's drug war and Thailand's 2014 military coup. The weakening of these alliances contributed to the friendlier approach of Thailand and the Philippines toward China, which complemented China's ability to nurture alliances and gain influences through economic policies. Such move strengthened Huawei's business in these countries.

Moving forward, Huawei's 5G business in the region will continue to help shape the economies of Southeast Asia. Not only will Huawei, as a supplier, enhance consumer and enterprise business, it may also provide an opportunity for local manufacturers to play a part in its supply chain. As American suppliers have a major role in providing parts, the U.S. ban has forced Huawei to find alternate suppliers. The giant tech company is working on developing its own chips and software to reduce its reliance on U.S. parts (Pierson and Dean 2019). Given the strong partnership between Huawei and Southeast Asia, Huawei may shift from American suppliers to suppliers in Southeast Asia, creating a positive circle of relationships. Policies should be implemented to strengthen its supply of human, physical, and human capital needed to be part of Huawei's supply chain.

As Southeast Asia countries decides on its future technology suppliers, the region must consider the risk of being stuck in one side of the geo-economic and technological divide that may be formed by the rift between the two biggest economies of the world. As Huawei tries to move away from U.S. suppliers to non-U.S. suppliers or internal development, the Chinese technology and U.S. technology will become more disconnected and this might result in a disruption in the global supply chain. Such disconnection between the two giant economies might be more pronounced as China has been banning government offices from using equipment and software from the U.S. The divide poses a risk to the region as it may not be able to fully realize the benefits of 5G technology.

Notes

1. Non-standalone 5G infrastructure will be done by upgrading the 4G infrastructure allowing 4G and 5G to operate simultaneously, creating a hybrid technology landscape. A standalone 5G infrastructure requires a completely new core architecture.

2. Full-fledged capabilities are necessary to build innovative new applications, for example, smart factories, massive Internet of Things (IoT) devices and autonomous vehicles.
3. The telecom industry is highly regulated because it is capital-intensive which is a natural barrier to entry. Hence, there is less competition. Regulators control competition, pricing, foreign communication, and allocation of licenses, among others.
4. The nine-dash line, also known as “cow’s tongue” in China because of its shape, first appeared on an official Chinese map in the 1940s and was adopted by Communist China. The U-shaped line encircles Taiwan, Philippines, Vietnam, and Malaysia. China uses this line to claim large areas of the sea and its resources.

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10

Huawei Goes to India: Can the Dragon and the Elephant Marry?

Deepraj Mukherjee

This case study offers a much-needed summary of the present and the potential future growth of Huawei in India. It also offers insights about the issues related to Huawei and the 5G network that will be launched in India by 2020. Huawei is not yet a major player in India's competitive smartphone market. The company has a low-end brand, called the "Honor" brand in India, while they expect the Huawei brand will be used for high-end devices. Both brands had a combined market share of 3.4 percent in 2018. However, the Honor brand is one of the fastest-growing brands in India in 2018, according to Counterpoint Technology Market Research. Huawei, by the end of 2018, has chartered out a three-year plan for the Indian market through its dual-brand strategy, backed by investments of over \$100 million starting from 2019 with an expansion of local manufacturing activities. Huawei, which up to this point had focused mainly on the online channel to sell devices, has now decided to

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get into the offline channel to tap a larger consumer base. The move follows recent changes in their e-commerce policy, which push for greater parity between the two channels in terms of pricing and inventory control. Will this global telecom giant become a major player in India?

The answer to the question above may lie in how the Sino-India relationship will shape shortly. The concerns with Huawei among the Indian policymakers have to do with the alleged security issues. These issues have been on the radar of India's security stakeholders far before the question of 5G emerged. However, there are indications that both the foreign ministries in China and India are discussing the security issues via diplomatic back channels. China possesses significant leverage to do so because India is far more economically dependent on bilateral trade with China than vice versa. Chinese exports to India significantly outweigh Indian exports to China. As things stand, it appears that the improvement in Sino-India relationships will aid Huawei in keeping its Indian business. Ultimately, China's ability to retain the Indian telecom gear market may have far-reaching implications in terms of trade between these two countries.

1 Introduction

The growth of Chinese companies in the last three decades is nothing short of spectacular. In the initial years, the growth could be seen for companies that produce labor-intensive low-cost goods. In recent times, however, the competitive edge of Chinese companies is no longer restricted only to low-cost manufacturing goods. Leading this recent phenomenon of creating internationally recognizable Chinese brands would be Huawei. Established in 1987, Huawei, within the last three decades, has become one of the leading global telecommunications network solution and equipment providers. In 2018, Huawei reported worldwide revenue of \$105.1 billion for 2018, with a net profit of \$8.7 billion (Huawei 2019). In 2008, *Business Week* magazine also listed Huawei in "The World's Most Influential Companies," which listed companies that have played a major role in the world of business during 2008 and could shape the corporate landscape for years to come. In the next few years, Huawei

becomes the largest company in terms of revenue and now has offices in 140 countries (Ahrens 2013). Huawei exemplifies an emerging economy multinational enterprise (MNE) that has nurtured its capability in the low-end domestic market in the late 1980s and early 1990s and then treated global competition as an opportunity to accumulate capabilities. By the first decade of the new century, it moved into a more profitable value curve and adopted strategies that made it the top global player in the field in its rights. As Fig. 10.1 indicated, by 2018, Huawei revenues are by far the largest among the top 12 telecom equipment provider companies, globally.

The growth of Huawei also stokes suspicion that it is close to Beijing's establishment and raised fear all over the world about the level of Beijing's involvement in Huawei's operations. There are allegations that Huawei promotes state espionage (U.S. Dept. of Justice 2020). However, it should be noted that such indictments have not been converted to any sentences yet at the U.S. courts. Though, it calls for a closer look at Huawei's ownership structure. Balding and Clarke (2019) found that the Huawei company is 100 percent owned by a holding company (Huawei TUC), which is in turn approximately 1 percent owned by Huawei founder Ren Zhengfei, and 99 percent owned by "trade union committee," an entity

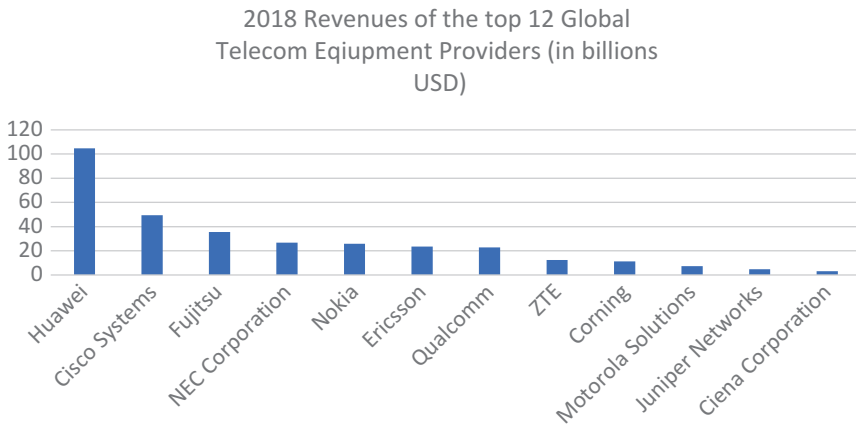


Fig. 10.1 2018 Revenues of the top 12 global telecom equipment providers (in billions USD). (Source: Chart Created by the Author)

for the holding company Huawei TUC. If truly, Huawei is controlled by a trade union committee, then given the one-party structure of the Chinese government, it is highly plausible that Huawei is not free of the state capital and, therefore, any possible state interjections. As the global leader of the telecommunication equipment provider, Huawei is set to play a major role in the rollout of the 5G mobile network. Therefore, it is of its interest that Huawei should clarify the ownership structure to the global audience and abate such allegations.

2 What Are the Dynamics of India's Telecom Sector?

Three major players—Bharti Airtel, Vodafone Idea, and Reliance Jio—dominate the Indian telecom market. All three of them have comparable market shares and spend heavily on expanding their network capacity and coverage. In general, the strategy adopted by each player is to focus on quality and cost-effective services to grow market share, which can eventually be monetized. As such, the sector is characterized by high levels of debt and low profitability. 5G technology, which will tap hitherto unexplored ends of the spectrum to provide services of unprecedented speed, reliability, and efficiency, will thus be a potential gamechanger. The infrastructure required for 5G is, however, not the same as that required for 4G, entailing fresh cost implications. Meanwhile, the sheer size and potential of the market for new equipment create significant opportunities for economies of scale for any equipment provider—such as Cisco, Ericsson, Nokia, and, of course, Huawei.

The fifth generation of wireless networking technology is likely to yield three major gains, that is, extremely high speeds of connectivity, significantly higher connection density, and near-zero latency. The 5G network would enhance machine-to-machine connectivity, data analytics, and automation, resulting in the development of new products and businesses, boosting productivity, and enhancing governance capacity. An Indian government study in August 2018 estimated the cumulative economic impact of 5G on the country's economy to hit \$1 trillion by 2035

(Parikh and Basu 2020). However, high levels of automation, greater connection density, and increased dependence on communications networks also imply a wider and more potent array of security threats. From an economic point of view, the argument of engaging Huawei is rather straightforward. India imports an overwhelming majority of its telecom equipment requirement, estimated at \$21,847.92 million in 2018. In this context, Huawei is a cost-effective partner, which is active in the Indian telecom ecosystem and can offer cutting-edge technology at compelling prices. Huawei has a long history of operations in India, entering in the late 1990s. In 2016, it established a Global Service Center in Bangalore, intending to service several markets across Asia, Africa, and the Middle East. Besides, it is keen to expand investments in India, announcing an additional \$100 million in 2018. It is important to note that India offers Huawei a market second only to China in size and hence would be critical for its future growth. India thus has crucial economic leverage, which can potentially yield political dividends for New Delhi vis-à-vis Beijing. The higher the stakes of Chinese enterprises in the Indian market, the greater the potential political leverage for India. Increased investments by Chinese firms in India can lead to developing constituencies that can act as stabilizers in the bilateral relationship and even potentially influence policy in Beijing.

Now that we are acquainted with Huawei's meteoric rise in the last three decades and the current state of the Indian market, we have to shed light on the context of the Sino-India relationship to understand the role that Huawei can play in India. This relationship between these two countries dates back to millennia. There are evidence that conceptual and linguistic exchanges existed in 1500–1000 BCE between the Shang-Zhou civilization in China and the ancient Vedic civilization in India. During the first, second, and third centuries, several Buddhist pilgrims and scholars traveled to China on the historic "silk route." Ancient Indian monk-scholars such as Kumarajiva, Bodhidharma, and Dharmakshema contributed to the spread of Buddhism in China.

Similarly, Chinese pilgrims also undertook journeys to India, the most famous among them being Fa Xian and Xuan Zang. India got her independence from colonial rule in 1947, and two years later, China emerged as the People Republic of China (PRC) ending the civil war. The initial

years of the twentieth-century independent India-China relationship focused on building trust in the Sino-India relationship. However, the border skirmish between the two countries in 1962 dented the developments and particularly blemished the image of China in the Indian psyche as India viewed the skirmish as Chinese aggression and the fulfillment of its territorial ambition. This 1962 border skirmish and the aftermath would be crucially important in understanding how the Indian government and Indian consumers would view Chinese products. The next section highlights this issue.

3 The Dragon and the Indian Consumers

Animosity is a direct and negative effect on buyer behavior as it relates to the products originating in a country that is the target of consumers' anger. Klein et al. (1998) wrote a seminal article in this regard and posit animosity as "antipathy related to previous or ongoing political, military, economic, or diplomatic events." The concept delineates that *Animosity* and *Consumer Ethnocentrism* are antecedents to "willingness to buy." To elaborate, when consumers experience animosity toward a certain country due to past or present events, they refuse to buy products from that country. This thinking, therefore, de-hyphenates animosity to product judgments, or quality perceptions of products from that country. A plethora of studies looked at this phenomenon in the recent past (e.g., Bahae and Pisani 2009; Funk et al. 2010; Maher and Mady 2010; Nakos and Hajidimitriou 2007; Nijssen and Douglas 2004; Parker et al. 2011; Shin 2001; Shoham et al. 2006; Witkowski 2000). The findings confirmed the negative impact of animosity for products in general.

The extant literature also provides strong support for the notion that national animosities caused by war, economic policies, and other conflicts may have a profound impact on consumer-buying behavior. It is important for those engaged in international business to understand the nature and impact of conflicts and animosity between countries on demand for products in international markets. For example, Edwards et al. (2007) found that 58 percent of French businesses operating in Australia and New Zealand reported a loss of sales as a result of the French

nuclear tests in the South Pacific. Several French companies responded to this increase in animosity by using strategies such as temporarily deferring investment in the region or even modifying their brand/company name. Leong et al. (2008) recommended that animosity research employs a more theory-driven approach. In their study, they distinguished between cognitive and affective product evaluations and found the impact of animosity to be much greater on the latter. In a similar vein, Verlegh and Steenkamp (1999) argued that animosity includes mainly affective and normative attitudes.

In this context, we can explore the idea of *Economic Animosity* that derives from a more general understanding of animosity between the two countries. The theory postulates that animosity has a direct negative influence on consumers' willingness to buy, with little or no impact on cognitive product judgments. In consumer research, it has long been suggested that symbolic attributes of a brand are important for explaining consumer behavior (Aaker 1997; Austin et al. 2003; Sirgy 1982). The argument is that attitude objects (e.g., brands) are associated with personality traits that have symbolic and self-impressive implications for the consumer and that influence consumer behavior. Image congruity theory holds that these associations should be in congruence with the consumer's personality. The ability to express personality traits is often associated with positive effects, such as pleasure or pride, whereas the inability to do so is associated with negative affect (McNulty and Swann 1994). It has increasingly been recognized that nations also have brand-like properties as put forward by research into the concept of national branding (Dinnie 2008). In light of these findings, it would be interesting to note the Indian psyche related to Chinese products.

A handful of studies has explored the effects of economic animosity on consumers' intentions and how they perceive any foreign products (Rosenblatt 1964; Shankarmahesh 2006) and thereby exhibit the sign of ethnocentricity. In general, the findings are that customers with higher levels of education and with higher-level global connections demonstrate less ethnocentricity. In this regard, China-India conflict finds its roots in 1962's border war, the still unsettled border between the two countries and China's close relationship can accentuate the relationship further and promote apprehension in Indian minds. The economic hostilities,

coupled with political leadership that promises the restoration of domestic businesses, may lead to a situation that results in escalation in the animosity toward each other. Consequently, firms from the countries which are involved in the economic hostilities may face customers' wrath in the other market. A firm like Huawei that desires to have global footprints need to be careful about these issues, and it needs to prepare themselves for the animosities between their host markets and China. They need to pro-actively understand the customer tendencies of animosity and customers' deep-rooted apprehensions and develop necessary marketing plans to overcome these problems.

As we will show, in the next section, the trade balance between the two countries rules out any ethnocentric behavior from the Indian consumers regarding Chinese products. However, the ever-increasing trade deficit between these two countries stoke that fear and could be the main obstacle for the Indian government to open up to Huawei for a 5G trial and later as the main telecom equipment provider to its 5G expansion. Next, we explore the trade between these two countries that highlights the skewness in the trade balance in recent years.

4 Skewed Balance of Trade and Security Threat: Fear Dragon?

The author has accessed World Bank data to derive a picture of trade between these two countries in recent decades. It is important to note that the two most populous countries in the world had a similar gross domestic product (GDP) back in 1980. India's exports to China have increased in absolute terms from US\$7.68 million in 1983 to US\$12.49 billion in 2017, recording a peak value of US\$17.44 billion in 2010. Indian exports have increased at an average annual growth rate of 30.1 percent during the period 1983–2010, after which there is a decline in exports at an average rate of 8 percent. This pattern resulted in China's share in India's total exports increasing from 0.08 percent in 1983 to 4.23 percent in 2017, touching a maximum of 7.92 percent in 2010. Though India's imports from China have increased from US\$79.01 million to US\$71.82 billion over the same period at an average annual growth rate

of 24.5 percent, China's share in India's total imports has increased steadily from 0.52 percent in 1983 to 17.61 percent in 2017. The trade between the two countries, therefore, currently highly skewed toward China, with India facing a balance of trade deficit of US\$ 57.3 billion in 2018 (World Bank 2018). As Fig. 10.2 indicates, India had a higher nominal GDP per capita even in 1990, and at the time when this article is going to press, the Chinese economy is five times larger to the Indian economy. Notwithstanding, that the gap could widen even further with India entering a recessionary territory the time this article is going to press—an economic slump by the first quarter of 2020 has occurred to the Indian economy according to the IMF forecasts (Lahiri 2020).

Figure 10.2 describes this huge difference in the size of these economies and the gap that emerged in the last 30 years. In 1987, both economies were identical in terms of size. They were the sleeping giants of the world economy. Today, the view looks different. China is the second-largest economy, and the “Sleeping Giant” is fully awake. China's GDP and per capita income are nearly five times those of India.

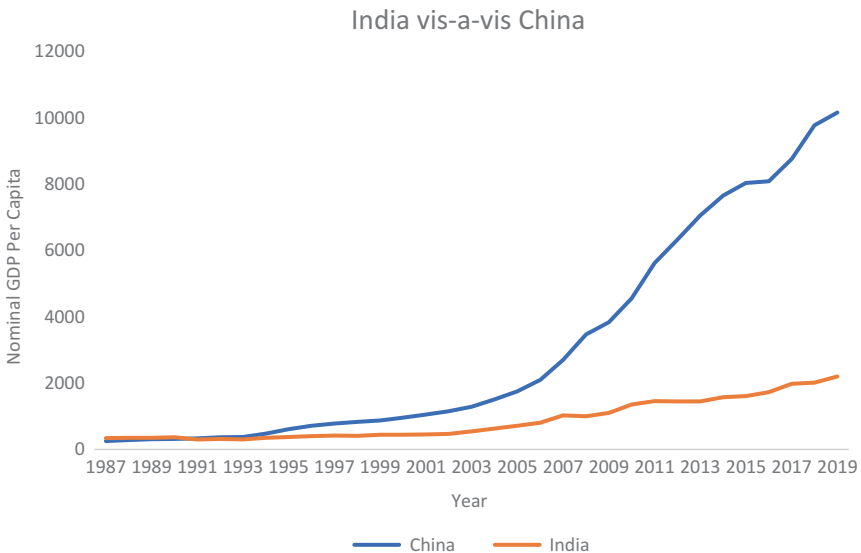


Fig. 10.2 GDP Growth of India vis-à-vis China. (Source: Chart Created by the Author)

Meanwhile, India's economic engine is sputtering. This huge growth differential between these two countries deeply impacted the Indian view of China. The sense of equality between the two neighbors got replaced by the reality of socio-economic inferiority by the Indians, akin to both the government and the Indian masses. This disparity of the economic sizes and skewed trade balances between the neighbors is an important lens through which we can inspect the apprehension of the government toward opening up the Indian mobile network infrastructure to Huawei as part of developing the 5G mobile network.

Can India develop an indigenous technology that provides a secure and strategically neutral solution to the Huawei? The answer to the question is that it's difficult but not beyond reach. There are three critical factors, namely: investment and funding, technical know-how, and a sound policy framework. India is yet to match the money spent by other countries on 5G technology; a maiden effort to set up indigenous 5G testing in 2018 was granted a relatively paltry sum of \$31.5 million, compared to the hundreds of billions of dollars across a combination of government funding and commercial investments that China has reportedly spent. The incumbent government is planning to include rolling out 5G under "Make in India"—an initiative of the current Indian Prime Minister Narendra Modi to boost domestic manufacturing and entrepreneurship. However, the resources are highly inadequate to fulfill their needs. While a homegrown solution is important and should be encouraged, it may take a long while to come to fruition. If the current administration wants to prioritize the early deployment of 5G, then it will likely have to consider conceding to the demands of either the United States or China.

Meanwhile, whatever the value of indigenous technology over the long term, India has to take cybersecurity seriously. In the 2018 Global Cybersecurity Index released by the International Telecommunication Union, India was downgraded by 24 positions to a rank of 47. Incidents of malicious cyberattacks and massive breaches of personal information continue to take places, such as the 2018 Aadhaar data (equivalent to the Social Security Number system in the United States) breach, the 2019 cyberattack on the Indian Space Research Organization, and a nuclear plant in Tamil Nadu, a southern state in India. The lack of robust legal

and institutional mechanisms for responding to cyber-threats could have magnified ramifications for personal data protection, privacy, and security, and it may even deter businesses from investing in India if they feel that their customer data and sensitive information won't be protected.

5 Huawei's Opportunities and Challenges in India

The argument of engaging Huawei in India is no brainer. India imports an overwhelming majority of its telecom equipment requirement, estimated at approximately \$21.85 billion in 2018 (*The Hindu* 2018). India wants competition as greater competition will increase the quality and reduce the price of the equipment acquired. Particularly, a country like India that is at its developmental phase and where poverty is still a major problem, given the affordability and competitiveness of Huawei's products, participation by Huawei is much needed to ensure an inclusive growth environment that doesn't leave India's economic hinterland behind.

With the mobile phone and data penetration increasing steadily over the last decade, India has become the world's largest consumer of mobile data. In India, Tele Density, the number of telephone connections for every hundred individuals living within an area, has steadily increased in the past two decades. As Fig. 10.3, indicates it moved from 3.58 percent in 2001 to 93.27 percent in 2018. The deep penetration is not caused by the increased number of landlines but because of the increased number of mobile subscribers (DNA India 2018). India is, therefore, going to be the breeding ground for 5G technology, which will tap yet unexplored ends of the spectrum to provide services of unprecedented speed, reliability, and efficiency. However, implementing it will require further capital expenditure from a telecom sector already overburdened with debt incurred in the race to grow. This is where Huawei comes in. India needs to mature its digital economy, and the 5G would be a critical component for India to achieve that level. The infrastructure required for 5G is, however, different from that of 4G; 5G would be more modular and, therefore, will require fiber optic cable and many smaller transmitters as

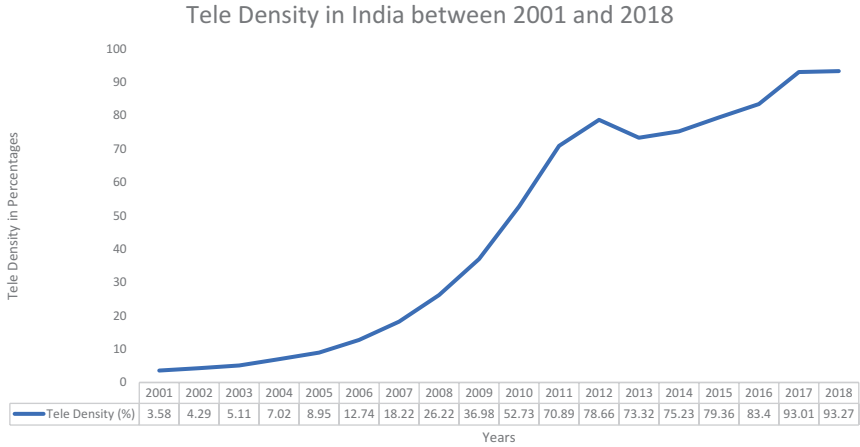


Fig. 10.3 Tele Density in India between 2001 and 2018. (Source: Chart Created by the Author)

opposed to a few large-signal towers. The sheer size of the Indian market creates great opportunities for economies of scale for any hypothetical equipment provider. Huawei sees that opportunity. The CEO of Huawei India Jay Chen recently declared that the company was ready to roll out the technology for trials within 20 days if approved (Cradlepoint 2019). As the Chinese giant comes under increasing international pressure, India’s need for 5G infrastructure provides it with critical opportunities for growth. An upgrade from the fourth to the fifth generation of wireless networking technology is likely to yield three major gains.

First, it promises extremely high speeds of connectivity, with some estimates pegging it at 100 times faster than 4G speeds. Second, 5G promises significantly higher connection density. 5G technology is expected to support up to 1 million connected devices per 0.38 square kilometer. In comparison, 4G supports around 2000 connected devices per square kilometer. Third, 5G promises near-zero latency, that is, a drastic reduction of the time taken for a network to respond to a request. The idea is critical to developing applications and products that rely on rapid, real-time responses. Consequently, an upgrade to 5G technology is expected to facilitate faster and deeper connectivity resulting in increased support for a larger range of applications and services.

The impact of these advances is likely to be felt in sectors as diverse as transport, healthcare, energy, and manufacturing, to name a few. In the long run, the expectation is that 5G networks will lead to the creation of new business and innovation ecosystems. It would enhance machine-to-machine connectivity, analytics, and automation, resulting in the development of new products and businesses while boosting productivity. However, high levels of automation, greater connection density, and increased dependence on communications networks also imply a wider and more potent array of security threats.

Yet, Huawei is not a major player in India's competitive smartphone market. The company has a low-end brand, called the "Honor" brand in India, while they expect the Huawei brand will be used for high-end devices. Both brands had a combined market share of 3.4 percent in 2018. However, the Honor brand is one of the fastest-growing brands in India in 2018, according to Counterpoint Technology Market Research. Huawei, by the end of 2018, has chartered out a three-year plan for the Indian market through its dual-brand strategy, backed by investments of over \$100 million starting from 2019 with an expansion of local manufacturing activities. Recently, Huawei had diverted its attention from being the online channel to sell devices and has now decided to get into the offline channel to tap a larger consumer base. The move follows recent changes in their e-commerce policy, which push for greater parity between the two channels in terms of pricing and inventory control.

This section will be incomplete if we don't highlight a primary obstacle that Huawei or any other foreign firm needs to take into consideration. Recently, Vodafone India was asked to pay \$7 billion in retroactive levies and penalties by March 2020. The penalty comes from the disagreement between the companies and the government reading how to calculate the adjusted gross revenue. New Delhi argued that all revenues from the business, even non-telecoms services, should be included. The differences ensued a legal battle that started in 2003 and continued for more than a decade, but in October 2019, the Supreme Court of India overturned a lower court ruling and agreed with the government's expansive definition. Under the new definition, Indian telecoms companies in operation since 2003 must pay approximately \$13 billion in historic levies and penalties. The government's complicated regulatory system in the telecom

sector became evident here. It possesses significant political and economic risks for foreign enterprises to operate in this sector. Huawei’s expansion plan in India will face the hurdle of a complex red tape of the Indian bureaucracy. Table 10.1 explains the opportunities and the challenges in a nutshell for the benefit of the audience.

Table 10.1 Opportunities and challenges for Huawei in India

	Short term	Long term
Opportunities	<ul style="list-style-type: none"> India is the largest mobile consumer base yet has limited telecom infrastructure. Huge opportunity for Huawei to capture the vast market that is hungry to get good quality telecom equipment India is going to be the breeding ground for 5G technology, which will tap yet unexplored ends of the spectrum to provide services of unprecedented speed, reliability, and efficiency 	<ul style="list-style-type: none"> Sustainability of Huawei’s staying top as the global leader for the telecom equipment provider require them to capture the Indian market As the Chinese giant comes under increasing international pressure, India’s need for 5G infrastructure provides it with critical opportunities for growth
Challenges	<ul style="list-style-type: none"> Huawei is not a major player in India’s competitive smartphone market. The company has a low-end brand, called the “honor” brand in India, while they expect the Huawei brand will be used for high-end devices Both brands had a combined market share of 3.4 percent in 2018. The challenge would be to make Huawei a known brand in India 	<ul style="list-style-type: none"> Vodafone India was asked to pay \$7bn in retroactive levies and penalties by March 2020. Huawei has to overcome this complicated bureaucratic system that exists in India that possess a political and economic risk to operate in the country The global perception about the alignment of Huawei with Beijing’s establishment is under radar. India which already has deep distrust that roots back to 1962s Sino-Indian border war, the global suspicion accentuates the issue. This is an uphill battle that Huawei has to overcome

6 Conclusion

Huawei's close ties with Beijing have stoked suspicions that its equipment could be used to facilitate espionage, surveillance, and cyberattacks. The United States and its close allies Australia, New Zealand, and Japan have banned Huawei from 5G rollout in their countries, citing national security risks. European Union took a less radical view and came up with a press release that calls for cautious monitoring of the risk concerns but not banning Huawei from participating in the rollout. Surprisingly, United Kingdom, part of the "Five Eyes" intelligence group (United States, Canada, Australia, and New Zealand are the other countries of this group), and one of the closest allies of the United States announced its decision to allow Huawei's involvement in the rollout of the country's next-generation 5G mobile network and as such broke ranks with the U.S. policy.

The British government argues that due to a "market failure," there are not enough high-quality providers, and therefore Huawei cannot be left out. However, it should be noted that the British government still classified Chinese company as a "high-risk vendor" and banned it from the core network that manages access and authentication, but permitted it to compete for up to 35 percent market share in the country's access network—that is, its antennae and similar equipment. India should take a cue from the United Kingdom's decision. India needs infrastructural development to rollout a successful 5G mobile network. Should it ban Huawei, doing so will reduce competition and constrain operators from extracting the best deal from other 5G vendors? The decision will further lead to policy uncertainty, increase prices for subscribers, and jeopardize future Chinese partnerships. By allowing Huawei in, the government retains the benefit of choice and competitive prices for 5G equipment.

However, it should cautiously track Huawei's equipment, and should it genuinely prove to be Beijing's instrument to carry out subversive activities in India then adequately India's national security. This evolving issue will be a part of the recent Indian polity for a while. India has allowed Huawei to participate in the upcoming 5G trials in that country, and that has been a smart decision by New Delhi. It should not exclude Huawei as a preemptive strike to protect data security but should closely assess

alleged risks and vulnerabilities in Huawei's equipment—a piece of useful information as it tries to balance all its domestic and strategic interests.

Indian policymakers thus face a critical choice—one that will require them to carefully weigh and balance a broad range of economic, political, technical, and strategic considerations. The United States, its allies, Australia, and New Zealand have banned Huawei technology and are urging others to do the same. The recent development of the United Kingdom allowing Huawei in the broad rollout of the 5G network indicates a souring relationship between the United States and the United Kingdom. Therefore, countries like India are caught in the middle face a dilemma: choose Huawei or any other Chinese technology company and suffer pushback from the United States or ban Huawei and face what is called “reverse economic sanctions” from China, which would entail restrictions on market access for foreign products and businesses. India must protect its core interests but should not limit its mobile infrastructure that requires resources to stay at par with the global standards.

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11

Exemplar Partner or Controversial Outsider? Huawei's Strategic Engagement in Oceania

Jake Lin

1 Introduction

Huawei's business reputation has gone through a roller coaster ride recently. Oceania has long been a pioneering overseas market for Huawei. Huawei has become an active provider, or even strategic partner, of telecommunication network in Australia, New Zealand and the South Pacific nations since early 2000s. This honeymoon period took a dramatic turn in 2018, as Huawei's state-backed identity and business model are under critical scrutiny in the region. The seismic change is around 2018 when the company got caught in the China-US trade disputes. While Huawei's business grows explosively and becomes a global telecommunication giant, it has been somewhat stuck in controversies of being the Chinese state's tool of achieving global technological and political dominance, with increasingly negative public opinions from the West.

This chapter seeks to examine Huawei's strategic engagement in Oceania in the past decade and the rationale behind its recent difficult

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situations in Oceania. It takes an inter-subjective approach by looking at Huawei's strategies and practice as well as local partners' interpretations of and responses to them. I argue that the underlying cause of Huawei's current difficulty in the region is the fundamental incongruity of values between Huawei and the West where contemporary business culture is based, intensified by geopolitical competition. No precedent exists that a multinational corporation (MNC) on strategic telecoms industry from a Leninist authoritarian state could ascend to be a global player. While there is no easy way to resolve the structural problem of great power rivalry in the long term, this chapter suggests Huawei adopt some short- and mid-term tactics to mitigate the risk of getting trapped in geopolitical conflict.

This chapter first gives an overview of how the literature explains the dilemma of Huawei's problem. It then provides an examination of how state and non-state actors in Oceania perceive and react to the evolving and contested nature of Huawei's strategic engagement. The following section illustrates Huawei's problematic business model from several aspects, namely the marketing strategies, its relations with the Chinese government, and its industrial relations and Human Resources (HR) management. The chapter finishes with some concluding remarks and strategic recommendations.

2 The Unprecedented Case of Huawei

Huawei's success is a household legend in China. For many Chinese consumers, to use a Huawei smartphone other than, for instance, a Samsung or Apple, is an act of supporting their nation. In 1987, 44-year-old former PLA engineer Ren Zhengfei founded Huawei Technologies in Shenzhen. At the beginning, Huawei faced fierce competition from eight global giants that dominated the Chinese telecom market including Fujitsu, NEC, Ericsson, Bell, Alcatel, Siemens, AT&T, Northern Telecom, and Nokia. Huawei, however, managed to rise to the top in the Chinese market and even became a global player with revenue reaching US\$100 billion for the first time in 2018, with 188,000 employees globally (Zaamout et al. 2019). Huawei overtook Ericsson in 2012 to become

the largest telecommunication equipment manufacturer in the world. It surpassed Apple in 2018 as the second-largest manufacturer of smart-phones, just behind Samsung. It has become one of the prominent leaders in developing 5G technology and service provision with one of the fastest network speeds (Mobileeurope 2017).

However, things change dramatically for Huawei. The turning point is in January 2019, when the United States unveiled a high-profile case against Huawei, which includes allegations of fraud, stealing of trade secrets and skirting the US sanction against Iran. As of September 2019, Australia, New Zealand, Japan, Taiwan region, and the United States banned the company's products within their mobile networks. Meanwhile, the United Kingdom has proposed a ban of Huawei products for core parts of its new 5G network. Germany and France plan to increase security measures to safeguard against backdoors into communication channels that are feared as part of Huawei's technology. Several European countries including Denmark, Sweden, and the Netherlands are still on the fence about possible bans. Many fear that the company is not independent enough from the Chinese government and might be an entry-way for spying.

Ren in many occasions denied all the allegations and remained great confident that Huawei will continue to be a leading player in telecoms and particularly in the 5G service provision without the United States. Huawei claimed that it has signed 5G contracts with companies from 25 countries, including Czech, Italian, Belgian, Russian, Brazilian, South Korea, the Philippines, Thailand, and other Southeast Asian countries (Tao 2018).

Very few precedents exist that a rising MNC get to become a proxy of power struggles and political rivalry. A brief look at some historical lessons is informative to Huawei's situation. One comparable case is how the United States dealt with the rising economic power of Japan (Encarnation 1993). Just like today's conflict between Huawei and the United States, there were concerns about Japanese MNCs' ascension to global dominance in 1980s, such as industrial espionage, monopoly, and political influence. For example, six executives from the Japanese company Hitachi were arrested by the FBI with allegation of stealing IBM technology. Fujitsu was blocked from acquiring Fairchild Computer on

national security grounds. By the end of the decade, Japan had replaced the Soviet Union in public opinion as the number one threat to America. The Speaker of the House Tip O’Neill threatened to “fix the Japanese like they’ve never been fixed before” (Tasker 2018). Democratic congressman Jack Brooks even suggested that the United States should have dropped four nuclear bombs on Japan, not just two.

What is distinctively different in the Japanese case is that Japan and the United States are allies with an ideological common ground. Japan was also the United States’s protectorate highly reliant on America for its security. China, in contrast, has shown the willingness and capability to challenge the American presence in the region. Critics argue that Japan is a status quo power while China is not (Tasker 2018). In terms of response tactics, Japan was more cooperative in the 1980s. Japan and the United States reached an accommodation, largely through Japanese concessions, and the bilateral economic relations have since been calm.

Another parallel lesson is the structural and geopolitical rivalry between the United States and the Soviet during the Cold War. Many today have already seen the Sino-US relations from the new cold war perspective, and the Huawei case shows that global economic networks have entered the realm of geo-strategy (Roubini 2019; Newman 2019; Wertheim 2019). While China insists on its development and rise is peaceful, the United States blames China for the current tensions. Since joining the World Trade Organization in 2001, China has reaped the benefits of the liberal trading and financial system and the free riding on its rules, while failing to meet its obligations. For the United States, China has gained an unfair advantage through alleged intellectual-property theft, forced technology transfers, subsidies for domestic firms, and other instruments of state capitalism with no major political reform on its Leninist system. The dispute around Huawei is not a short-term negotiating tactic by the Trump administration designed to extract a concession. Rather, it is the opening salvo in a new tech cold war that could upend the global supply chain and rewrite business orders worldwide (Jing and Soo 2019).

The Huawei case, however, is different from the old Cold War scenario. Huawei is the first MNC with a Leninist state background that is perceived to challenge the liberal trade and rule-based world order, the extent to which no former Soviet company had ever managed to reach.

The challenge for Huawei therefore is unprecedented, because it faces the hard situations of Japan and the Soviet combined.

These historical and structural perspectives provide crucial lessons in that business and political disputes are shaped by inter-subjective discourse among different actors. They therefore could be potentially resolved by changing the perceptions of the stakeholders and policy makers. From the perspective of interpretative epistemology, all individuals are reflexive social actors in an inter-subjective world of meaning. The behavior of business and decision makers depends on how they perceive and analyze the situations. While structural factors are critical in shaping corporation's decision-making process, the dispositional factors, such as the underlying values or belief systems are able to motivate actors to pursue certain goals (Smith et al. 2016: 126).

The role of perceptions and images in world politics has important explanatory power (Jervis 2017; Cottams 1977). Diplomacy and business relations could fail catastrophically if policy makers or business leaders have misperception of the other's intentions or motivations. For instance, the United States and its allies' perceptions of Soviet Russian, or the images in their mind, had a strong influence on the development of Soviet-US relations during the Cold War (Herrmann 1993). Similarly, how the Japanese business models were perceived by the American MNCs in the 1980s become an important factor in the US-Japan trade negotiation (Aoki et al. 1994).

Closely connected to perception, trust is the positive inter-subjective perception in building collegial business and political relations. It helps to better cope with uncertain situations by decreasing complexity through reduction of options that have to be considered in given situations. The lack of trust stems from the lack of detailed knowledge about other's abilities and motivations to act as promised (Trček 2017: 9). The following sections use Huawei's operation in Oceania as a case to show the gap of perceptions between Huawei and other business and political actors in the region.

3 Huawei in Oceania: Business Caught in Geopolitics

Despite the divided views of Huawei, similar to the rest of the world, the Oceanian region shows particular dynamics in actors' dealing with Huawei's rising business influence. This dynamics can be illustrated by discussing the reaction from Australia, New Zealand, and the Island nations in the South Pacific that are subject to different degrees of Chinese influence.

Australia and New Zealand together serve as Huawei's gateway to connect the market in the South Pacific where both major regional powers traditionally have a close political interest. After more than a decade of committed economic and political investment, China has become a key player in the Pacific. This has led to more attention to China's increasing presence in and influence with the region. By 2014, China had extended the geographical scope of the Belt and Road Initiative (BRI) by describing the South Pacific as "a natural extension of the twenty first century Maritime Silk Road" (Lin 2018: 187).

Huawei has been involved in Australia's networks business since 2004, building up a base of 700 staff across Sydney, Brisbane, Melbourne, and Perth. Huawei Australia's 2018 annual results show sales revenues of AU\$735 million, up 18% year-on-year. From 2011, both Vodafone Hutchison Australia and Singtel Optus have ongoing partnerships with Huawei as part of their consumers' 3G and 4G mobile networks. Telstra has not had a relationship with Huawei in the past.

However, the Australian government has had a more cautious diplomatic relationship with China and excluded Huawei from participating in its national broadband network early in 2002. In 2017, tensions grew after the Australia federal government agreed to build an undersea cable between Australia and Papua New Guinea, who was first approached by Huawei. The competition for influence in the region has soured the bilateral relations between Australia and China. By August 2018, the government had chosen to ban Huawei, as a "high-risk vendor," from participating in the next generation high-speed 5G networks, on security grounds (Australian Government 2018).

No region is more politicized on the Huawei issue than in Oceania, where attitude toward the company is highly divided. In fact, Australia is one of the first places in the world to set off the debate about the contested nature of Huawei's business model. As Huawei is increasingly involved in geopolitical disputes, its business has been defined by state-level perceptions. In August 2018, Australia became the first country to officially ban Huawei as one of the high-risk vendors from involvement in the country's 5G networks.

Prime Minister Turnbull expressed his concern about building the future 5G infrastructures by vendors who are not from traditional allies, which is the Five Eyes intelligence alliance (Turnbull 2019). The Five Eyes is an Anglophone intelligence alliance established among five countries—Australia, Canada, New Zealand, the United Kingdom, and the United States. For Turnbull, ferocious competition on price from the Chinese vendors Huawei and ZTE, and an absence of mind in Washington and other Five Eyes capitals has put Australia to the position where there is not one 5G vendor from the United States or its Five Eyes allies.

When network security is more important than ever in the 5G era, Turnbull even encouraged the US President to take the lead and ensure that there is at least one viable and secure 5G vendor from the United States and/or its Five Eyes partners. "American companies must lead the world in cellular technology. 5G networks must be secure. They must be strong. They have to be guarded from the enemy—we do have enemies out there" (Turnbull 2019).

In contrast, New Zealand has one of the closest relationships with China in the West. Early in 1997, New Zealand became the first Western country to conclude a bilateral agreement on China's accession to the WTO. During a state visit to New Zealand in November 2014, Prime Minister John Key and President Xi agreed to upgrade and re-define the bilateral relationship to a "comprehensive strategic partnership" (Young and Lin 2018). Following this, New Zealand signed up to the Asia Infrastructure Investment Bank becoming the first Western country to do so and the first to face criticism. New Zealand became one of the first Western countries to sign a MoA with China on the BRI during Premier Li Keqiang's visit in March 2017 (Young and Lin 2018).

Under this historical bilateral partnership, Huawei started its operation in New Zealand in 2005, delivering high-quality network infrastructure to 2 degrees, Spark, Vodafone, and Chorus as well as 30% of the technology behind the Government Ultra-Fast Broadband (UFB) project. The project is a New Zealand government program of building fiber-to-the-home networks covering 87% of the population by the end of 2022. Huawei also became a provider of 4G and national broadband network in New Zealand in 2013. Around 150 people make up the Huawei New Zealand team leading the development of 4G.

Shortly after Australia's ban, New Zealand's national intelligence agency Government Communications Security Bureau (GCSB) raises security concerns over Spark's Huawei 5G plan. Officially, the GCSB decision in November 2018 had nothing to do with politics or international security issues. It made its assessment of Huawei's equipment on technical grounds. New Zealand's ban came after the Government Communications Headquarters (GCHQ), the equivalent agency in the United Kingdom, publicly described Huawei's product as "very shoddy," raising concerns about "basic engineering competence and cyber security hygiene that give rise to vulnerabilities that are capable of being exploited by a range of actors" (Hamilton-Hart 2019).

Among the South Pacific Island nations, Fiji is one of the closest countries with Huawei. Huawei first entered the Fijian market in 2002 and has strategic partnerships with Telecom Fiji and Digicel. In 2015, Fiji's government jointly formed a strategic plan to build Fiji into an ICT hub for the South Pacific. In 2016, Huawei assisted Telecom Fiji with the rollout of a 4G+ mobile network. In April 2019, Telecom Fiji announced to partner Huawei to rollout a new Optic Network in Fiji, claimed to be the first of its kind in the Pacific Islands.

By contrast, Huawei has some hard time in the Solomon Islands because of the interference from Australia. The impoverished South Pacific country signed a deal with Huawei in late 2016 to construct the fiber-optic cable from Australia to Honiara to improve its often-unreliable internet and phone services. However, in June 2018, Australia agreed to help fund and build an undersea communications cable to the Solomon Islands, after the Pacific nation was convinced to drop a contract with Huawei due to some concerns raised by Australia (*South China Morning*

Post 2018). The US\$92.53 million undersea cable funded by Australia was completed in August 2019 and to bring high-speed internet to the Solomon Islands and Papua New Guinea.

4 The Nature of Conflict and the Huawei Model

As discussed above, the conflictual and often negative perceptions of Huawei among diverse actors in Australia, New Zealand, and the South Pacific are socially constructed, the results of a complex and inter-subjective process between contested opinions and views. This divergence of perceptions is largely underlined by several basic aspects of Huawei's business model, namely the marketing strategies, its relations with the Chinese government, and its industrial relations and Human Resources (HR) management.

4.1 Pursue Market at All Cost?

The expansion of Huawei is closely linked to the career of its founder, Ren Zhengfei. When Ren first started the company in 1987, China was experiencing transition from Leninist command economy to market-oriented state capitalism. Ren had lived a very poor life after he was born in one of the poorest regions in Southern China in 1944. He joined the army in 1972 to escape a life of hardship and became a technician in the military. When Ren retired from the PLA in 1983, he was not a great businessman at first. Like most government officials and entrepreneurs in the 1980s, he did not have the vaguest idea of what a market economy was. He admitted that he was “deceived and cheated” in the jungle of chaotic or perhaps ruthless market reform (Zhang 2013).

These early life experiences have a impact on his later career in Huawei, where strong will to endure hardship and readiness to struggle for success are the constant themes in his business development strategies. Huawei, a private company with initial working capital of around US\$3000, was competing with the toughest rivals in the world. An aggressive marketing

and business strategy is the key to Huawei's survival in the fierce competition at the beginning against the domestic companies such as Datang, ZTE, and Great Dragon, as well as international giants such as Ericsson, Nokia, Motorola, and Siemens.

At the core of the marketing departments in Huawei is the work culture of "the wolves." Staff are expected to have the wild wolves' sharp sense for market opportunity, team fighting to conquer the rivals, and even fearlessness and cruelty against the opponents (*Xinmin Weekly* 2008). For example, one important component of the marketing strategy is their sales key performance indicator (KPIs) to assess and motivate staff's performance.

Ren uses strategic thoughts straight from Mao's books to guide Huawei's battle of seizing new contracts from clients. "Distinguish friends from enemies" and "fight your competitors to death" are just a few Ren's favorite strategies (Zhang 2013). An unspoken rule in Huawei marketing staff members is "no matter what mistake you have made, do not lose your order to ZTE" (Zhang 2013). One salesperson was downgraded for his annual bonus in 2004, despite he topped the sales in the regional office of Thailand. The reason is that he lost one contract to Huawei's key competitor.

By 1995, Huawei's sales were mainly from selling telecoms equipment to the People's Liberation Army and to the rural areas, with sales revenue around US\$220,000. After years of implementing aggressive marketing strategy, Huawei not only grew into a dominant player in the Mainland China but also started to expand overseas in 2000. Its revenue in international market reached US\$552 million. By 2005, Huawei's international market contracts exceeded its domestic business for the first time.

In tandem with aggressive marketing is Huawei's top priority of investing in research and development (R&D). More than 40% of staff is working in R&D under the company strategy, according to an informant from Huawei. That is around 70,000 engineers out of its 188,000 global employees in 2018. Huawei also persists in investing no less than 10% of its sales revenues in R&D. What adds to Huawei's success, according to observers, is its global competition for great talent and new technology, often using aggressive tactics, including stealing from the competitors. For example, early in 2003, telecoms giant Cisco accused Huawei of

intellectual property theft (Thurm 2003). T-Mobile sued Huawei for stealing part of a cellphone testing robot called Tappy from 2012 (Brewster 2019). Nortel alleged Huawei spent years hacking into Nortel's system and stealing information so it could compete with Nortel on the world market (Payton 2012).

Huawei's aggressive strategy is in stark contrast with the business culture in Australasia. If Huawei wants to succeed in the region, it needs to reflect on this misfit of fundamental social value and invest on the localization of the basic approach of doing business. This is a region where a positive public profile is important for companies. But at the same time, many great businesses manage to have a mild profile or even keep it below the radar, epitomized in what the locals call the "tall poppy syndrome" in New Zealand, as one judging panelist of New Zealand's prestigious business awards said (*NZ Herald* 2016).

More importantly, underlying Huawei's ambitious marketing strategies are some more fundamental differences of corporate values and operational models that arguably make it an outlier of the business world where Western culture is the norm.

4.2 Precarious Relations with the State

One of the great trust issues from the developed world to engage Huawei in the future telecom infrastructure building is the way in which they perceive Huawei's relations with the Chinese government. Ren's personal connections with the PLA and Huawei's corporate links to the party state have raised suspicions. Many in the West tend to believe the company's incredible rise is due to its being a political tool of the Chinese government to accomplish national, strategic, and business objectives. For instance, Ren started Huawei after he retired from the PLA, and Huawei made its domestic success from winning government contracts to provide telecoms equipment for the PLA. Zhou Daiqi, Huawei's chief ethics and compliance officer, takes a primary role as the party secretary of Huawei's Communist Party Committee. All major companies in China are required to have a Communist Party committee to ensure their political loyalty.

The trust issue continues to spiral downward as Huawei's senior personnel gets caught in the center of political dispute. Meng Wanzhou, Huawei's chief financial officer and Ren's eldest daughter, was arrested by the Canadian police at the request of the United States in December 2018. The US Department of Justice filed two indictments against Huawei and Meng: misleading banks and the US government about their business in Iran, obstruction of justice, and the attempted theft of trade secrets. The indictments are seen as a serious escalation of the US sanction against Huawei. Meng denied the charges and Ren publicly supported his daughter.

Huawei's Czech branch office is suspected of collecting sensitive data on officials and businessmen through its employees. This information is allegedly gathered during business meetings and subsequently entered into a central database to which the company's headquarters in China have access. Czech Radio's investigative team at Radiožurnál broke this story, citing former Huawei employees and Czech intelligence sources (McEnchroe and Kroupa 2019). A Huawei employee also was arrested in Poland on allegations of spying for China.

Many believe Huawei's violation of property rights is not a commercial act but orchestrated by the party state behind. These direct actions against Huawei's employees come after a long trail of allegations of Huawei industrial espionage for itself and on behalf of the Chinese government. Cisco, Nortel, and Motorola have all pointed the fingers at Huawei for stealing confidential trade information. For example, Brian Shields, then senior security adviser at failed Canadian telecoms company Nortel, said, "these kinds of things (hacking) are not done by just average hackers. I believe these are nation-state kind of activity" (Payton 2012). The African Union (AU) Headquarter building in Addis Ababa was completed in 2012 with US\$200 million pledged by China. Huawei served as the key ICT provider inside the AU headquarter. In January 2018, French media reported that data from the AU's servers was sent to servers in Shanghai every day for a period of five years (Vaswani 2019).

Although there is no direct evidence in those cases above to indicate Huawei's misconduct, reports like this played straight into suspicions that Huawei has been under undue influence by the Chinese government. Australia and increasingly New Zealand (Zaagman 2018;

Hamilton-Hart 2019) have seen the company as little as an arm of the Chinese Communist Party in the height of the trade war. Ren says that Huawei's resources have never been and would never be used to spy for the Chinese government. Critics responded aptly in that there is no separation between the party state and the private sector leading to a system in China that encourages the lack of transparency in companies like Huawei (Zaagman 2018).

4.3 Problematic Labor Relations

As discussed before, underlying Huawei's aggressive marketing and R&D strategies is the military-style industrial relations and non-transparent corporate structure. Huawei's non-conventional, non-transparent ownership adds to the trust issue that has been mounting in the global business world, which champions individual liberty and transparency. Ren started Huawei by internally collecting capital under collective ownership in Shenzhen in 1988. It remained this form until 1997. With the help of HR consultancy firm Hay Group, Huawei was restructured into a privately owned company.

But this tradition of raising capital directly from the employees carries on throughout Huawei's development. This capital raising scheme is critical for Huawei's survival and growth, particularly in the beginning. From the start-up stage, the employees in Huawei only received basic salaries, as their bonuses were rolled into stock rights. Huawei even actively borrow money from employees to beef up capital, at the time of financial hardship. In 2003, for instance, Huawei raised about US\$1 billion to support the company's expansion in the overseas market. Most staff members above supervisory level were targeted. They were required to pay a small percentage of cash with the rest borrowed from the banks guaranteed by Huawei (Zhang 2013).

Huawei often boasts the advantage of this ownership system to the extent in which it is an integral part of its commercial success. At a cursory look, this scheme is a good Huawei innovation of corporate governance, as it is a combination of capital accumulation and stimulation of employees' work incentive. However, the West including Australasia has serious doubt about it as the scheme is problematic in several ways.

First, the scheme and Huawei's underlying ownership is operationally opaque and legally ambiguous. After the restructuring in 2001, Ren as the CEO holds 1% stock right while more than 90,000 employees have 99% of Huawei through a committee of shareholding. In reality, the stock right share is the top secret in Huawei. The tens of thousands of Huawei shareholders only know their own share but have absolutely no access to the information of company share distribution and other colleagues' share. This is arguably a violation of the Chinese law, except the state and Shenzhen government had granted a pass. Even in the early 2000s, such a shareholding plan was still defined as illegal fund-raising in some of China's inland provinces. All limited liability companies in China must be funded and established by no more than 50 shareholders.

Huawei's employee shareholding scheme is also against the prevalent corporate governance norms. As shareholders, employees have no rights to supervise the company operation and have little voice in the decision-making process. When employees resign, they have no choice but to sell their share back to Huawei (Shi 2019). This is in stark contrast with public-listed corporation, which is the primary form of MNCs. It has caused polarization among the employees, particularly the senior management, either with high loyalty or great frustration, the latter often leading to the loss of talents. Dispute also happens. For example, one employee sued Huawei for their potential financial losses due to the company not repurchasing the shares from several departed employees.

This scheme also connects to Huawei employees' immoral behaviors on the matter such as intellectual property rights, which continue to the degree that they have become a corporate culture. In 2001, three former Huawei employees were accused of stealing trade secrets to join a new company Shanghai Huke. This is only one among many cases of flow of technical employees between Huawei and its competitors. The case is significant because it shows that aggressive and unethical misconduct is not uncommon in Huawei employees, either for or against Huawei. It also shows that Huawei has a tradition of being brutal to competitors. Harvey (2004) argues that the real cause of Huawei's lawsuit against former employees is not technology stealing but the fact that the stealing act benefits Huawei's competitor—UTStarcom.

Second, Huawei is accused of potentially being exploitative to employees. This comes as little surprise given that Chinese labor conditions have long been under criticism especially in traditional manufacturing industries (Brown and Chang 2017; Lin 2019). All Huawei employees holding shares are subject to high financial risk. Many of them have mortgaged their personal properties to participate in the scheme without official receipts but dependent on the credibility of Huawei. The power relations are clearly uneven. While the company benefit a great deal from the capital accumulation scheme, employees are not only exposed to a higher financial risk, but also becoming dependent on Huawei and forced to be loyal to the company. Employees, especially from marketing and R&D, are motivated to be aggressive and often ruthless to achieve high performance against the competitors. This also explains the military and “wolf” characteristics of Huawei employees.

Huawei's aggressive wolf's culture is viewed by Australia and New Zealand as one of the root causes that leads to a variety of HR scandals as well as employee's death linked to prevalent overwork and mental health issues (Kirton 2019). For example, Huawei's HR departments took dramatic measures as workaround for the new Labor Contract Law came into effect toward the end of 2017, which involved 7000 employees being fired and re-hired. Two employees committed suicide within ten days in 2008 due to workplace dispute and stress (Sina 2008). The most recent case is Li Hongyua's wrongful detention for 251 days in 2018 on the charge of alleged extortion leveled against him by Huawei. The media revelation of the case in December 2019 created a public backlash against Huawei even among its loyal patriotic Chinese consumers.

5 Conclusion: Challenging the Impossible?

Sun Tzu, the great philosopher and strategist, says, “He who knows the enemy and knows himself will not be defeated in a hundred battles” (Wee 2002). The wisdom may be helpful for Huawei to contemplate possible solutions to meet the challenges ahead. With an inter-subjective analysis and a critical discussion of Huawei's business model, the chapter has shown that the underlying cause of Huawei's current difficulty in the

region is the fundamental incongruity of values between Huawei and the West. In order to become a truly successful MNC alongside those such as Microsoft, Toyota, and Samsung to name just a few, Huawei needs to engage with the spectrum of perceptions in the West, no matter how negative they are, and formulate new business strategies, particularly to address those corporate management and HR culture issues. No precedent exists that a consumer product enterprise from a Leninist authoritarian state could ascend to a global player. Nonetheless, Huawei can adopt some short- and mid-term tactics to mitigate the risk of getting trapped in geopolitical conflict.

The top priority for Huawei is to reform the corporate personnel structure toward universal value of humanity and dissociate itself from the deeply entrenched notion of another Chinese sweatshop of the world but in high-tech form. The operationally opaque and legally murky ownership system and the often-exploitative capital raising scheme need to be transformed into a transparent and fair model. While most successful MNC take the form of public-listed company, it is not the only option. With institutional innovation, Huawei should take pain to showcase that it is a public-oriented company with strong corporate social responsibility. For example, Automobile manufacturer Volvo experimented with innovations in the assembly line to make the shop floor experience less boring and miserable for the workers in the 1980s (Breen 2015). New Zealand, for instance, is a country that champions innovative approach to work and life balance. A gaming company becomes an instant hit by offering unlimited paid annual leave, a share in the company's profits, and no set work hours (Roy 2017). Only when Huawei is transformed to be a business entity respected by all employees and workers, will it be respected and trusted by the public in the West.

An innovative re-structuring would become a strong basis to tactically disassociate with the Chinese state and government. This strategical change requires many coordinated small steps and would not be achieved overnight. They could be as small and mundane as changing the brand name and graphic image. Huawei literally means "China Capable," with a strong connotation entangled with the Chinese state. The adoption of a neutral name is one step to distance the company and products from politics. Huawei should also consider de-escalating corporate affairs from the level of Sino-US bilateral dispute, for instance, the CFO Meng's case, and

taking it as just another commercial lawsuit. Huawei can also diversify its business and investment by actively engaging with traditionally non-Chinese allies countries, such as Vietnam, India, and Japan. To win the public trust from these countries would truly demonstrate Huawei is a non-ideological and non-political biased MNC. Crucially, Huawei should avoid any overt involvement in local politics, especially political party activities, which has become a mine zone in both Australia and New Zealand.

Huawei also needs to manage to re-build public trust. While it takes year to build corporate reputation, it only takes one bad incident to damage it. Safety and security are of paramount importance for the consumers. Huawei should prevent negative news coverage from spiraling down, such as the baby formula scandal broke the news in New Zealand in 2008. After the 5G ban, Huawei New Zealand launched a PR campaign designed to pull at New Zealanders' heartstrings, declaring itself to be as integral to 5G as New Zealand is to Rugby. It was resulted from employing local New Zealand marketing expertise such as deputy chief executive Andrew Bowater as its public face. The campaign was considered somewhat ham-fisted at best. Nonetheless, this localized marketing approach is pointing at the right direction, though it requires long-term investment to be effective.

The challenging situations are unprecedented for Huawei resulted from the structural shift of great power rivalry, ideological clash, cultural misunderstanding, and misfit of corporate governance. It needs to undergo a revolutionary change rather than reform to meet those daunting challenges. Huawei has the choice of either being the victim of the new Cold War, or the frontrunner of future technological provision for all humanity that transcends politics.

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Part II

Huawei's Crisis Management and Corporate Communication



12

Untangling Legitimacy Complexity: Huawei's Engagement with Government and Media

Lei Li and Sunny Li Sun

1 Introduction

Despite its increasing technological prowess and business success in the global arena, Huawei has been struggling in some prominent Western countries, especially in the U.S. (Fazzini 2019; Hofman et al. 2019). Indeed, Huawei has often been banned from bidding for telecom projects, selling equipment and acquiring firms in such countries as the U.S. and Australia for national security reasons (Lu 2012; Mullen and Pham 2018; Woo 2018). Moreover, the company has frequently been “demonized” by the Western business news headlines such as “widespread fear that [Huawei] is here to spy for Beijing” or accused of stealing

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technologies (Markoff and Barboza 2010; Prasso 2011) in part reflecting the effects of country of origin (He and Zhang 2018). We contend that the fundamental difficulties encountered by the company in developed Western countries¹ lies in the challenges for attaining legitimacy which is defined as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions” (Suchman 1995: 574). Legitimization challenges for MNEs’ operations in foreign countries are often attributed to the institutional distances between the home and host countries (Kostova and Zaheer 1999; Salomon and Wu 2012; Wu and Salomon 2016; Yang et al. 2012). Such a macro-level perspective, however, undertheorizes the difficulties for Huawei to attain legitimacy in developed Western countries because it largely leaves out the micro-foundations for legitimacy building (Elg et al. 2017). In this chapter, we explore the underlying linkage between institutional distance and Huawei’s legitimacy by examining Huawei’s engagement with key stakeholders. Extant research, high-profile teaching cases and media reports, though limited, indicate that Chinese multinationals (MNEs) such as Huawei face legitimization challenges associated with the key stakeholders, in particular, the governments and media. Therefore, we posit that it is essential to draw upon the stakeholder theory in studying MNE legitimacy (Freeman et al. 2010).

If “legitimacy is conferred upon or attributed to the organization by its [stakeholders]—like beauty, it resides in the eyes of the beholder” (Ashforth and Gibbs 1990: 177), it is likely fundamental to address the linkage between engaging stakeholders and attaining legitimacy in the host countries for MNEs (Rathert 2016; Stevens et al. 2016). In this chapter, we first briefly review Huawei’s troubling experiences in developed Western countries, especially in the U.S. by perusing some high-profile case studies and media reports. Then, we apply the stakeholder theory and compare stakeholder engagement between China and developed Western countries with a focus on the governments and media. Next, we use the lens of stakeholder engagement to explain Huawei’s legitimization woes and explore potential stakeholder engagement approaches in developed Western countries. We conclude with scholarly and managerial implications for Chinese MNEs and other emerging market MNEs in general.

2 Huawei's Troubling Experiences in Developed Western Countries

We started with seven high-profile teaching cases from the Harvard and Ivey case collections on Huawei and summarized the main contents as shown in Table 12.1. We found that Huawei was relatively successful in engaging with customers, employees, suppliers, industrial partners, academic partners, and even competitors, but had serious trouble coping with the governments and media in developed Western countries. Amid the trade tension between the U.S. and China in 2018–2019, Huawei is blocked by the U.S. government from getting access to the U.S. market and faces substantial restrictions in partnering with the U.S. high-tech suppliers (Farrell and Newman 2019). We note that the sort of anti-Huawei campaign results from the broad geopolitical conflicts between the U.S. and its allies and China (Ofek and Masko 2019) as illustrated in Table 12.2.

To cope with the difficulties, Huawei hired some high-profile lawyers such as Samir Jain, formerly a senior director for cybersecurity policies on President Obama's National Security Council, and partnered with the law firm Jones Day for political lobbying in the U.S. in March 2019 (Shields et al. 2019). In addition, Huawei had to change its previous low-profile strategy which left a mysterious corporate image with and even engendered misperception of the media and the general public. As Huawei's spokesperson said: "We will continue to let facts speak for themselves but strive to better explain what we are doing to connect people and improve technology." Eric Xu, one of Huawei's rotating chief executive officers, explained in a meeting with some German journalists: "Our PR department is asking Huawei executives to speak up about who we really are and what we do. So here we are, even though we are not sure whether this can really work or not" (Hille 2019).

Indeed, Mr. Ren Zhengfei himself, Huawei's founder, invited many reporters from various countries and granted a number of in-depth interviews to tell the "who-we-are" story in 2019 alone. Huawei also disclosed more details in its annual reports and social responsibility reports for the sake of transparency. In its Sustainability Report 2018, for example,

Table 12.1 Huawei and relevant stakeholders in selected case studies

Case number	Authors, Year	Case title	Period	Stakeholders	Main contents
IES265-PDF-ENG	Zhang and Kase (2007)	Huawei, A Silent Chinese Telecom Multinational	1987–2008	Customers, employees	Huawei's history, background, culture, management system, cost competitiveness and customer relationships.
Ivey W13306	Alon and Simpson (2013)	Huawei Enters the United States	1987–2011	U.S. governments	The Committee on Foreign Investment in the U.S. (CFIUS) demanded Huawei to voluntarily abandon its purchase of 3leaf company for security concerns.
ACRC at University of Hong Kong HK1061	Celly et al. (2015)	Huawei in Canada: Can It Become a Trusted Player?	2002–2015	Canada, U.S., EU governments; Media	A report from the U.S. Congress concluded that Huawei posed national security threat and this caused government scrutiny and negative press in Canada. The media widely reported that Mr. Ren is a former engineer in the People's Liberation Army.
ST37-PDF-ENG	Xu et al. (2016)	Open Innovation at Huawei	2010–2016	Academic partners	How did Huawei develop Huawei Innovation Research Program (HIRP) as its open innovation platform through university-enterprise research collaboration

INSEAD IN1324	Xiao et al. (2017)	A Dark Horse in the Global Smartphone Market	1987–2016	Customers, suppliers	Huawei's strategy on "cloud-pipe-device" in 2011 fosters the mobile phone business development. Benefiting from R&D on System-on chip (SoC) and design, Huawei significantly increases the competitiveness in smartphone business.
W17065-PDF- ENG	Kittilaksanawong and Mason (2017)	Huawei-Leica Alliance: Reinventing Smartphone Photography or Building Brand Image?	2016–2017	Partners	While Leica pursued a digital transformation, Huawei built long-term partnership with Leica to reinvent smartphone photography.
518071-PDF- ENG	Ofek et al. (2018)	Huawei: How Can We Lead the Way?	2010–2018	Competitors	How did Huawei compete with Apple and Samsung? How to position, communicate and price the new phones?
520017-PDF- ENG	Ofek and Masko (2019)	Huawei and the U.S.-China Trade War	2017–2019	U.S.-China governments	U.S. government was concerned about possible Huawei's facilitating Chinese spying and banned U.S. suppliers from participating in Huawei's supply chain.

Table 12.2 Percentage of global GDP by countries/regions' stance on Huawei

Stance on Huawei	Countries/regions	Percentage of global GDP
Ban in effect	Australia, Japan, Taiwan, U.S.	32.60
Likely to ban	Canada, New Zealand	2.30
On the fence	Belgium, Czech Republic, Denmark, India, Norway, Poland, Sweden, U.K., Vietnam	9.90
Not likely to ban	Argentina, Austria, Brazil, France, Germany, Italy, Philippines, Russia, Singapore, South Korea, Spain, Switzerland, Thailand	21.60
Embrace Huawei	China, Indonesia, Saudi Arabia, South Africa, Turkey, U.A.E.	19.80
Unclear	Others	13.80

Data source: Shields et al. (2019)

Huawei specifies that its ethical standard in the “Compliance Management System Building” section (www.huawei.com):

We conduct business with integrity, observing international conventions and all applicable laws and regulations in the countries and regions where we operate. This is the cornerstone of operational compliance at Huawei, and has long been a core principle of our management team. With the guidance and oversight of top company executives, efforts to strengthen a culture of operational compliance are ongoing. We have set up dedicated compliance and oversight teams to further bolster the management and oversight of our global business operations. Through training and awareness programs, performance appraisals, and accountability management, we consistently reinforce awareness of laws and operational compliance among our employees at all levels.

The above indicates that it is important to gain an in-depth understanding of Huawei’s troubling experiences in developed Western countries and highlight the lessons which could be learned by the Chinese and other emerging market firms. Next, we briefly review the stakeholder theory which we believe serves as a good foundation for examining Huawei’s legitimization challenges.

3 Stakeholder Theory: A Foundation for Augmenting MNE Legitimization Research

Prior research indicates that institutional distances between the home and host countries affects the legitimacy attainment of MNEs in host countries. Yet, it is unclear as to what may be the underlying mechanisms that enable MNEs to overcome the specific challenges derived from the institutional distances (Salomon 2016). Nevertheless, there are some evidence that certain underlying mechanisms involve MNEs' key stakeholders "who can affect or is affected by the achievement of [MNEs'] objectives" (Freeman 1984: 46). For example, Mithani (2017) reveals that corporate philanthropy after a natural disaster helps MNEs to reconstruct the ties with local communities in India and consequently alleviates liability of foreignness arising from institutional distance (i.e., increases local legitimacy). Similarly, Campbell (2007) articulates that high-profile non-government organizations pressure MNEs to improve standards of corporate governance and enhance legitimacy in institutionally weak environments. Indeed, legitimacy is granted to an organization by its stakeholders (Ashforth and Gibbs 1990; Deephouse and Suchman 2008). Stakeholders perceive a firm as legitimate when the firm's actions are in line with their expectations and conform to the rules they believe are supposed to guide its behavior. Therefore, it is essential for a focal firm to shape and reshape the stakeholders' perception of its practices by engaging them properly. Figure 12.1 shows that the introduction of the stakeholder theory helps reveal an underlying mechanism of how institutional distance affects local legitimacy.

For scholars and practitioners, however, the real questions are "who (or what) are the stakeholders of the firm? To whom (or what) do managers pay attention?" (Mitchell et al. 1997: 853) and how firms might engage stakeholders in their favor (McWilliams and Siegel 2001; Porter and Kramer 2006). Mitchell et al. (1997) characterize stakeholders based on three attributes: power, legitimacy and urgency. If a stakeholder possesses all the three attributes, it's a highly salient stakeholder; otherwise, it's called a moderately salient stakeholder with two attributes or a lowly

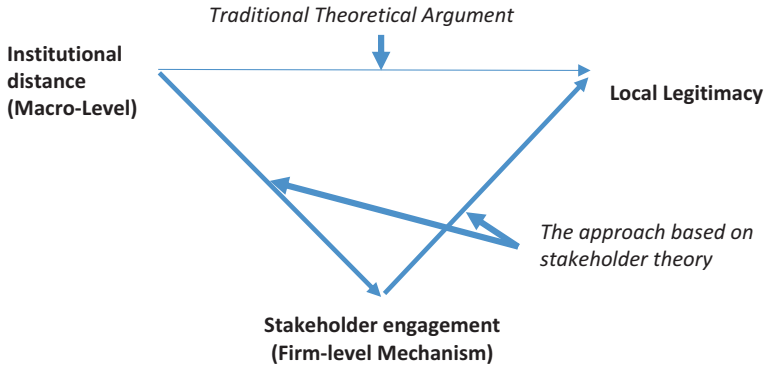


Fig. 12.1 A conceptual illustration of the legitimacy research: Stakeholder theory-based approach versus traditional approach

salient stakeholder with only one attribute or a non-stakeholder with none of the attributes. These scholars argue that “stakeholder salience will be positively related to the cumulative number of stakeholder attributes—power, legitimacy, and urgency—perceived by managers to be present” (Mitchell et al. 1997: 873). Phillips (2003) makes an insightful point about some special stakeholders such as the media and competitors which have no legitimate relationship with the focal firm but have the abilities to affect the firm and its normative stakeholders. Post et al. (2002) propose a taxonomy of resource-based stakeholders (e.g., customers, employees, stockholders), industry-market stakeholders (e.g., labor unions, regulators, suppliers) and social and political stakeholders (e.g., governments, non-government organizations, communities). A good understanding of stakeholder identification and issue salience could guide firms to engage stakeholders effectively (Bundy et al. 2013; Crane and Ruebottom 2011).

Since the portfolio and the nature of stakeholders may vary across different institutional contexts (Meyer et al. 2011), we need to be aware what is acceptable to stakeholders in one country may not be tolerated in another (Harting et al. 2006). In the next section, we seek to make a comparison of stakeholder engagement between developed Western countries and China. As noted earlier, Huawei has been struggling in

engaging the host country governments and the media. Thus, we focus on these two stakeholders who are institutionally embedded and are most difficult to reshape and change (Scott 1995).

4 Engaging Governments and Media: A Comparison Between Developed Western Countries and China

The power, legitimacy and urgency of the governments and the nature for firms to engage with them are significantly different when comparing China with developed Western countries. For example, the legislature in developed Western countries such as the U.S. Senate and House of Representatives have constitutional power to work with the executive branches such as the federal administration. Similarly, parliaments in the UK and other European countries play the leading role in enacting rules and laws which regulatory bodies then execute. In contrast, the People's Congress in China is still seen as a "rubber stamp" for decisions already made by the state's executive branch and the Communist Party central committee, and new legislature may not immediately be executed and is subject to local interpretation. While participating in committees for policy formulation and political lobbying are among the common practices in developed Western countries for firms to ensure that their interests are taken into account, cultivating informal personal relations with government officials and forging formal ties to the government and the Communist Party (through state ownership or with senior managers being party leaders) are prevalent in China (Luo et al. 2012; Shi et al. 2014; Li et al. 2019).

The media as a special stakeholder is perceived and engaged very differently in China and developed Western countries (Fang and Chimenson 2017). In the latter, the expected main function of the media is to report and investigate major social issues rather independently from the governments and businesses based upon a legal foundation of the right to freedom of speech (Hofman et al. 2019). In China, the media, though often financially independent, is under strong government control and

exercises the main function in expressing social concerns as an extension of the State governance and Party policy. That is why some companies such as HND Group and Dalian Wanda Group were able to suppress the negative news reports with the help of the government in the name of ensuring social stability (South China Morning Post 2018). Nevertheless, it is worth noting that social media plays an increasingly important role in China (Chiu et al. 2012; Luo et al. 2016, 2017). More than 800 million people use blogs and/or microblogs and/or WeChat, and so on. The online users are reportedly spending more than 40 percent of their time with social media. Customers and other stakeholders use social media as a way to more freely express social and environmental concerns (Qin et al. 2017).

For MNEs it is important to build good relations with the media in developed Western countries to influence its attention related to sensitive areas that may affect a firm's reputation whereas in China investing heavily in direct media relations is less important as the ultimate stakeholders are the government and the Party (Meyer et al. 2015; Sun et al. 2013).

The above shows clear discrepancies between developed Western countries and China in terms of understanding the interests and practices of the governments and media which can make it challenging for Huawei and other Chinese MNEs to make adaptations when entering developed Western countries. In the following section, we try to explore a theoretical perspective to explain Huawei's woes in engaging with the governments and media in developed Western countries.

5 Huawei's Legitimization Complexity: A Cross-Border Stakeholder Engagement Perspective

The above comparison of the nature of and engagement with the governments and media between developed Western countries and China, though quite brief, lays a good foundation for us to address Huawei's legitimization complexity in such developed Western countries as U.S. and Australia. Consistent with Kostova and Zaheer (1999), the

notion of complexity is emphasized due to the social and cognitive nature of the legitimization process which relies on incomplete information and imperfect interpretation in multiple socially constructed environments. We argue that the main problems behind the lack of legitimacy of Huawei in face of the governments and media in those countries are two pronged. One is the loss of stakeholder engagement capabilities in institutionally distant countries, which we term “stakeholder engagement deficiency”² and it is rooted in the home country, namely China. As the stakeholder identification and engagement differ so greatly between China and developed Western countries, Huawei has had trouble fully understanding the power structure and/or the processes and rules of the operations of the governments and media in developed Western countries. This problem is manifested in the lack of interactions of Mr. Ren Zhengfei with the media until the recent years as well as Huawei's inadequate recruitment of experienced political and legal advisors in the host countries. Moreover, Huawei may be hindered by their administrative heritage (rooted in the Chinese institutional environment) to engage the governments and media effectively (Bartlett and Ghoshal 1989; Kostova and Zaheer 1999).

The other important but less noted problem is that Huawei has been suffering from negative national stereotypes. Stereotypes are “beliefs about the characteristics, attributes, and behaviors of certain groups” (Hilton and von Hippel 1996: 240). As Kostova and Zaheer (1999: 73–74) point out, “the host country ... typically has less information with which to judge an MNE entrant ... the lack of information on a particular MNE may lead to the use of stereotyping based on the legitimacy or illegitimacy of certain classes of organizations to which the MNE is perceived to belong.” Stereotyping is rooted in host countries, namely, developed Western countries in our context. Chinese MNEs often suffer from negative national stereotyping which results in social disapproval of (i.e., stakeholders' negative affinity toward) their local activities (Bundy and Pfarrer 2015; Titus et al. 2018). Stereotyping takes place in part as people are bounded rational and make sense of social behaviors by categorizing them on the basis of certain cognitive structures resulting from the deep-rooted cultural-cognitive and normative institutions (Kostova and Zaheer 1999). The specific problem with Huawei is that its country of origin is often associated with the negative images such as totalitarian

governments, human rights violation, lack of legal enforcement and so on. Such an image reflects the liability of country of origin (Khanna 1986; Verlegh and Steenkamp 1999) and results in negative stereotyping of many Chinese MNEs (Crilly et al. 2015). Another stereotyping of Huawei is related to the national security concern. Despite being a private company, Huawei was accused of spying for the Chinese government and posing threats to the national security by the U.S. (Alon and Simpson 2013), Canada (Celly et al. 2015), and the EU (Coulter 2013). As Chaobin Yang, the head of Huawei's 5G business, has recently noted: "From a technical perspective, security is something we can solve ... But if you look at security as a political issue, and judging the security of a vendor based on its [country of] origin, then it's very difficult to solve" (Busvine 2019). It should be noted that recent research also suggests that liability of opaqueness (i.e., lack of transparency, defined as unavailability of credible firm-level information to stakeholders) (Li et al. 2019). This could be another important factor causing stereotypical judgment of Huawei.

The above indicates that both home and host country rooted problems impose substantial legitimating challenges for Huawei in developed Western countries. However, the two problems differ by nature. One results from the challenges Huawei face in trying to transfer or adapt the domestic stakeholder engagement practices to the developed Western countries (Kostova 1999); the other results from the local key stakeholders' overgeneralized perception or stereotypical judgement of Chinese firms in developed Western countries. As Kostova and Zaheer (1999: 75) point out, "it is likely that when an institutional environment judges the legitimacy of a particular organizational unit, it will refer to the legitimacy of other organizational units that are similar to the focal unit, since they belong to the same cognitive category—for example, to the same class of organizations." The question is what may help Huawei to overcome these stereotypical judgments and attain local legitimacy.

The traditional institution-based tenets suggest that the establishment of organizational legitimacy in host countries may be realized through isomorphism, that is, being or doing the same as other firms in the same institutional environment (Husted et al. 2016; Kostova et al. 2008; Salomon and Wu 2012; Wu and Salomon 2016). This is equivalent to

full adaptation. The more recent literature indicates that MNEs may be excluded from the local isomorphic pressures (Kostova et al. 2008) and thus could possibly avoid the need for adaptation. Some recent studies show that Chinese MNEs and other emerging market MNEs have flexible ways of making adaptation (e.g., Meyer et al. 2014).

The overall argument is that there might be a range of institutional adaptation approaches for Huawei to deal with the governments and media and attain local legitimacy. We argue whether a particular adaptation strategy is effective depends upon the nature of the problems (i.e., stakeholder engagement deficiency, negative national stereotyping) and the salience of the stakeholders in terms of power, legitimacy and urgency. Bundy et al. (2013) advocate three broad types of firm responsiveness to stakeholder concerns: accommodation, negotiation and defensiveness. This is highly consistent with the practice of making adaptation with accommodation resembling full adaptation and defensiveness close to little adaptation. In the following, we explore some possible adaptation strategies for Huawei.

5.1 Government Engagement and Legitimacy Attainment

Olsen (2017) points out that the government is a unique stakeholder with the potential power unattainable by other stakeholders. The governments and the Communist Party organizations at different levels are literally omnipotent stakeholders in China. Chinese firms are used to leveraging formal ties with the governments via state ownership or cultivating informal personal relations with government and party officials domestically (Luo et al. 2012; Shi et al. 2014; Li et al. 2019). Nevertheless, such typical practices of working with the governments in China are detrimental to Huawei in developed Western countries. The governments in developed Western countries are powerful and legitimate but they function within quite strict legal boundaries under normal circumstances. Huawei's deficiency of engaging the developed Western country governments results from the difficulties for navigating the complex political systems wherein the political communication styles and routines are not

well understood. Specifically, Huawei has little experiences with political lobbying and policy formulations in developed Western countries. Although it is theoretically tempting for Huawei to try to make full adaptation to the local political rules and protocols over time, it is not realistic considering the high-level pressures for internal legitimacy in the institutional context of home country. Rather, Huawei could be effective by adopting a negotiation strategy with the governments based on value co-creation (Freeman et al. 2010; Svendsen and Laberge 2006) or mutuality of value creation within the network of stakeholders (Sachs and Ruehli 2011). Svendsen and Laberge (2006: 2) articulate that the co-creative engagement enables “a network or web of organizations and individuals [to] come together to address a shared issue, problem or opportunity.” Huawei has recently tried to leverage its collaboration with Google to influence the U.S. government due to the value co-creation embedded in the partnership (Shahani 2019).

Drawing upon the works such as Kostova and Zaheer (1999), Campbell et al. (2012) emphasize that host country stakeholders might use stereotypes with negative consequences for foreign affiliates due to lack of reliable information. The negative stereotyping of Huawei due to the perception of country of origin is particularly serious insofar as the developed Western country governments are concerned.

The governments are by far the most salient stakeholders as a whole in China. Ideologically, the status of the Chinese government and the Chinese Communist Party and their massive roles in the Chinese economy and business development is questioned and ill perceived by the governments in developed Western countries (Meyer et al. 2014). As a result, Huawei is often subject to negative stereotyping associated with the Chinese government. For example, Huawei has encountered significant challenges in trying to establish its legitimacy in the U.S. (Marques et al. 2017; Sun 2009). In particular, the company, though owned by its employees, has been perceived as no different than those owned by the Chinese government and military mainly because its founder, Ren Zhengfei, used to be a military engineer before being discharged and establishing Huawei and he had been extremely reclusive for many years (Vance and Einhorn 2011). More specifically, Huawei has been accused of posing threat to national security (Coulter 2013; Woo 2018). Extant

research suggests that the above-mentioned stereotyping not only poses threats to a company's cognitive identity but also compromises its strategic performance and therefore entails a defensive strategy through political lobbying and active publicity (Bundy et al. 2013). In the case of Huawei, the company was trying to forge political alliances involving former speaker of the House of the U.S. Congress, Richard Gephardt and former World Bank President, James Wolfensohn (Spencer and Raice 2010). Huawei also hired many non-Chinese executives to join its senior management team and made efforts to issue comprehensive CSR reports. It was even willing to open source codes for government investigation (Vance and Einhorn 2011) or sell its 5G technologies. Notwithstanding the efforts, it seemed to be only partially effective for Huawei to establish reasonable legitimacy in some prominent Western countries (Busvine 2019; Celly et al. 2015; Alon and Simpson 2013; Luna 2011). Overall, the above reasoning suggests that to debunk negative stereotyping, it is wise for Huawei to develop a defensive strategy proactively in engaging with the governments in developed Western countries.

5.2 Media Engagement and Legitimacy Attainment

The media appears to be a special but salient stakeholder in developed Western countries as it seems to possess all the three attributes: power, legitimacy, and urgent claims. However, the media does not have a direct claim on the focal firm and may be called a "derivative stakeholder" (Phillips 2003: 31). "[Firms] need not necessarily concern themselves with the well-being of the news media as they would their [shareholders]. But, to the extent that the news media can affect [shareholders]' well-being ... [firms] should take account of these effects and manage them in the best interest of the [shareholders]" (Phillips 2003: 31). Despite its "derivative legitimacy," the media is widely perceived as crucial in developed Western countries. This is in sharp contrast with the media in China which is under strong state control. Chinese MNEs tend to be inexperienced in engaging with the media and even at times felt reluctant to do so in developed Western countries (Fang and Chimenson 2017). In the case of Huawei, for quite many years some reporters in the U.S. felt full

of mystery about Mr. Ren Zhengfei and always reinforced their bias that Mr. Ren must have had “secret” connections with the Chinese military due to his background. Clearly, this reflects Huawei’s deficiency in engaging the media in developed Western countries. In recent years, however, Huawei has become more open to the media (Lev-Ram 2013; Shead 2014). In particular, Ren Zhengfei has increasingly engaged with the media and tried to show Huawei has nothing to hide. Notwithstanding, “Bill Plummer, who ran government and public relations as deputy head of Huawei’s Washington office from 2010 until his April 2018 layoff, said Huawei leaders in Shenzhen continually ignored advice to be more transparent” (Woo 2018). This line of reasoning suggests that Huawei still need to overcome the deficiency of engaging the media by being more communicative. The extent of openness and intensity of communication depend on the institutional forces in the home country to a certain extent. This would entail a negotiation strategy with the media through practices.

The significant differences along cultural-cognitive and normative institutional dimensions and lack of sufficient information lead to negative stereotyping of Chinese MNEs by the media in developed Western countries (cf. Kostova and Zaheer 1999). Chinese MNEs can try to manage the psychological side of their entries into developed Western countries proactively by hiring competent local public relations professionals and establishing coordination mechanisms to engage the media well in advance (Roland Berger Strategy Consultants 2014). Such a proactively defensive strategy in engaging the media are expected to be effective because negative stereotyping may be inadvertently reinforced by the lack of proactive and defensive communication of Chinese MNEs with the media. Huawei’s recent practices of defending itself by interacting with the media and relying on legal services and procedures, especially in the case of Meng Wanzhou’s extradition proceedings in Canada, seem to be partially effective. Overall, it is desirable for Huawei to adopt a defensive strategy proactively in face of the media in developed Western countries to alleviate negative stereotyping and attain local legitimacy.

6 Discussion

Academic studies on stakeholder engagement across institutional contexts and MNE legitimization are still limited (Freeman et al. 2010; Husted and Allen 2006). In particular, little is known about the stakeholder engagement of Chinese MNEs in developed Western countries where they face substantial legitimization challenges. This chapter takes Huawei as an example and seek to untangle Huawei's legitimization complexity associated with the governments and media in developed Western countries. We make two important contributions.

First, we explore a cross-border stakeholder engagement perspective in view of the institutional distances between China and developed Western countries. In particular, we make a distinction between two fundamentally different problems underscoring the legitimization complexity of Huawei in developed Western countries. One is the stakeholder engagement deficiency, a home-country rooted problem; the other is the negative national stereotyping of the key local stakeholders, a host-country rooted problem. We make it clear as shown in Fig. 12.1 that the impact of institutional distance lies (at least partially) in the differences of stakeholder engagement and perception which influence local legitimacy attainment.

Second, we discuss some adaptation strategies desirable for Huawei to engage the key stakeholders in developed Western countries with a focus on the governments and media. We propose specifically that the negotiation and defensive strategies would be effective for Huawei to engage the governments and media in developed Western countries. To cope with stakeholder engagement deficiency, a negotiation strategy would be imperative while for overcoming negative national stereotypes, a defensive strategy would likely be desirable. As political-social stakeholders in developed Western countries, the governments and the media tend to engender severe challenges to Chinese MNEs' legitimacy that goes beyond the operations of any individual Chinese MNE such as Huawei, especially given the recent trend of de-globalization and decoupling (Witt 2019). The negotiation strategy as applied to the governments and media is complex. That is why we suggest a co-creative approach which entails

the involvement of other stakeholders for collective benefits. The defensive strategy is proposed when it comes to negative national stereotyping from the governments and media. While proactiveness and transparency are necessary for the defensive strategy, there are other measures such as valuable contribution to the local community (Mithani 2017) and building alliances with local firms (Elg et al. 2017; Shahani 2019). It should be noted that such a strategy is called “defensive” mainly because there is a need to defuse negative national stereotyping rather than triggering any animosity. A defensive strategy is likely even more effective through collective actions of many Chinese MNEs (Pant and Ramachandran 2012).

6.1 Scholarly and Managerial Implications

The cross-border stakeholder engagement perspective and the potential adaptation strategies we propose in the context of Huawei extends extant research on general stakeholder engagement such as Mitchell et al. (1997) and Bundy et al. (2013) in a relatively unique and rich institutional context (Deng et al. 2020). It is reasonable to argue that our theoretical perspective can be applied to other emerging market contexts where stakeholder engagement deficiency, liability of country-of-origin and liability of opacity exist due to the substantial institutional distances from the developed Western countries. It should be noted that our comparison between China and the developed Western countries with respect to institutional differences and stakeholder engagement is neither comprehensive nor fine-grained. Further research is needed to address how the nature and degree of engagement deficiencies with and negative national stereotyping of the governments and media vary among different nations. There is also a need to deepen our understanding of how Huawei and other Chinese MNEs are able to recognize the salient issues and motives of the governments and media and engage them accordingly.

Recent research shows that forming alliances in institutionally distant countries is helpful for Chinese and other emerging market MNEs to improve performance (Luo and Rui 2009; Sun et al. 2012; Yang et al. 2012). However, as manifested in the case of Huawei (Woo 2018), we need to know more specifically what kinds of alliances (e.g., partnership

with lawyers or politicians) may be particularly conducive to the increase of legitimacy in developed Western countries.

Our cross-border stakeholder engagement perspective has managerial implications for Chinese MNEs in the process of formulating and executing their internationalization strategies, especially in developed Western countries. For Huawei and other Chinese MNEs, a clear understanding of the different portfolios of salient stakeholders, in particular the governments and media is essential prior to investment decisions in developed Western countries. To do more “homework” proactively may also be an effective way of preventing the governments of developed Western countries from making urgent claims against Chinese MNEs. More importantly, Chinese MNEs need to sharpen their capabilities of engaging with the governments and media in developed Western countries. As suggested earlier, Chinese MNEs may adopt a co-creative approach to engage with a network of important stakeholders thereby influencing the attitudes of the host country governments. Moreover, Chinese MNEs should be more transparent and communicative in dealing with the media.

7 Conclusion

Since China's accession to the World Trade Organization, many Chinese firms have become very successful in the global arena. Huawei is a prominent example. Nevertheless, even Huawei has suffered from serious setbacks in some of the prominent Western countries. A key reason is that Huawei has for many years overlooked the importance of engaging the governments and media in developed Western countries. This chapter explores a cross-border stakeholder engagement perspective which addresses the links between institutional distance, stakeholder engagement and Huawei's legitimacy attainment in developed Western countries. We contribute to the cross-fertilization of the stakeholder theory and MNE legitimation literatures in a context-specific manner with significant scholarly and managerial implications for Chinese and other emerging market MNEs.

Notes

1. Our working definition of developed Western countries is consistent with Huang et al. (2017) who refer to the countries such as Australia, Canada, France, Germany, Italy, Sweden, Switzerland, U.K., and U.S.
2. The use of this term resembles “competence deficiencies” by Luo and Rui (2009).

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13

Red Teaming Strategy: Huawei's Organizational Learning and Resilience

William Chongyang Zhou and Sunny Li Sun

Since a trade war exploded between the U.S. and China in 2017, the telecommunications giant Huawei, at the epicenter of this war, was hit hard (Ofek and Masko 2019). How did the company survive a U.S. ban on market entry and technology supply? We argue that Huawei's "Red Teaming" strategy, along with a "winter-is-coming" consciousness played a critical role in organizational learning and keeping resilient.

1 What Is Red Teaming Strategy?

Originally coined by the military, the term "Red Team" is a proxy for an imaginary enemy within an organization. After the September 11, 2001 terrorist attack, the U.S. government hired external experts to establish Red Teams in the Army Directed Studies Office and in a number of departments and agencies.¹ Examples of the use of Red Teams abound.

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The CIA's Sherman Kent Center established a Red Team that specializes in "researching hypotheses, mirroring, and complex analysis" of various types of intelligence (Lauder 2009). The U.S. Department of Energy's Sandia National Laboratory used a Red Team to assess the vulnerability of information systems and simulate intrusion patterns of black hat hackers. The National Security Agency (NSA) used a Red Team to simulate thinking and intrusion patterns of its opponents. The U.S. National Audit Office established a Forensic Audits and Special Investigations Team to apply Red Teaming strategy to evaluate government internal procedures. The evaluation was not tested in a simulated environment, but in a real-world operating environment such as a military exercise. The Canadian police established the Joint Task Force Games (JTFG) to conduct Red Teaming strategy on various scenarios of the 2010 Winter Olympics.

There are more cases in which companies have applied Red Teaming strategy. For example, IBM uses the Red Team's concept of an "external role" to challenge traditional assumptions, test unexpected results, and provide alternative solutions. eBay uses Red Teaming hacking tools to evaluate the vulnerability of its system. In *NYSE: Corporate Governance Guide* (2014: 226), the New York Stock Exchange suggested that all listed firms "having a cybersecurity function, particularly one with 'Red Team' functions, reporting to the CIO thus would be the functional equivalent of having an internal audit function report directly and only to a chief financial officer (CFO)."

Sun Tzu's ancient Chinese military work, *The Art of War*, developed the notion that "oblique and frontal relationships engender each other" (奇正相生 *Ji Zheng Xiang Sheng*). This statement has been explained as the mutual transformation of two forces: the frontal (*Zheng*), which refers to the main force of the frontal battlefield, and the oblique (*Ji*), which refers to the Red Team. This pair of concepts is at the core of ancient Chinese military strategy, which was immortalized by Sun Tzu: "An encounter takes place frontally, while victory is gained obliquely." Jullien (2000: 36) explained: "'frontally' signifies not only facing the enemy but doing so in a normal, ordinary, predictable way. Similarly, 'obliquely' means not only approaching from the side but doing so in an extraordinary way;

unexpected by the enemy, reaching him when he is least prepared. The attack is indirect, operating in secret.”

Huawei, a company with military-like awareness, established a Red Team in the 1990s (Sun 2018). The Red Team imitated Huawei's major competitors. According to Ren Zhengfei, the founder of Huawei, “the Red Team is trying to find a way to deny the Blue Team” (the “Blue Team” here refers to the frontal force) (Ren 2003). The Red Team put forward confrontational ideas, simulated various possible signals, and maintained a high “winter-is-coming” consciousness. In this chapter, we use three examples to explain the functions and importance of Huawei's Red Teaming strategy. We also discuss how the company implements Red Teaming strategy to promote organizational learning using the theory of ambidexterity and paradox management (Andriopoulos and Lewis 2009; Cao et al. 2009; Raisch et al. 2009).

2 Research Design and Method

We chose to use the case study method to study Red Teaming strategy of Huawei since it is one of the largest companies that initiated such a strategy at an early state (Sun 2018). Our qualitative case study combined observations from archival and secondary data. We followed the principle of theoretical sampling and based our case inclusion on theoretical considerations (Eisenhardt 1989; Yin 2013). Specifically, the selected cases fit our research questions well and met the cross-experiment design of the multiple case study method (Eisenhardt 1989; Yin 2013). An important theoretical consideration was complete coverage of Huawei's Red Team strategy time period, therefore, our data spanned from the 1990s to 2018. Another concern was to maximize the variations in theoretically relevant characteristics of Red Teaming departments (Chen and Sun 2017). Therefore, our three cases show different functions of Red Teaming strategy—that is, a mutual transformation between Red and Blue Teams, learning from rivals, and using Red Team as a backup plan. After identifying these cases, we collected all the archival financial and legal documents that described the Red Teaming strategy.

3 Huawei' s "Winter-Is-Coming" Consciousness

"Winter is coming" is the motto of House Stark in the fantasy novel, *A Song of Ice and Fire* written by George R. R. Martin. House Stark, located in the north of the fictional continent of Westeros, is always prepared for the cold winter with constant vigilance. Similarly, Ren Zhengfei wrote a famous article entitled "Huawei's Winter" (Ren 2001). He conjectured an incoming crisis in the telecom industry could trigger a Huawei bankruptcy in 2001, although the company had just reached sales of 22 billion RMB (about US\$3 billions) with profits of 2.9 billion RMB (about US\$0.4 billion) in 2000. In the statement, Ren said: "It is spring now, but that means winter is not too far away, so we will have to ponder about the problems in winter during spring and summer ... One will be frozen to death without any premonition or preventive measures ... When that happens, whoever has a wool jacket will survive" (Wagstaff and Yee 2012). Under this "winter-is-coming" consciousness, Huawei began a large-scale internationalization and built a first-mover advantage over its major domestic competitor ZTE (Sun 2009).

"Winter-is-coming" consciousness inspired inception of the Red Team at Huawei. One of the company executives, Zheng Baoyong, served as the commander of this "special force." At that time, the Red Team provided strategic research and simulation initiatives on the company's competitors for top executives. Three examples describe a brief picture of this unique strategy.

In 2003, at the company's Human Resources Reform Conference, Ren Zhengfei stated that Huawei should hire a large number of overseas executives over the next two years, and English should be the board of directors' working language. However, the Red Team refuted this idea, believing that no fundamental changes would result if foreigners replaced the company's chiefs of major overseas regions given Huawei's organizational structure at the time. As such, there were no English-speaking foreign executives on Huawei's board until very recently.

Before 2005, Huawei was not particularly well informed on overseas markets, and the company suffered heavy losses from adverse exchange

rates every year. After doing an oblique analysis, the Red Team found that Huawei's foreign exchange basket was oversimplified, and only three or four currency combinations could not form an effective risk hedge. With the help of consulting companies, Huawei's foreign exchange basket has been greatly developed and includes more than a dozen currencies, effectively mitigating the exchange rate risk.

In 2007, Apple launched their epoch-making product—the iPhone. Many manufacturers, including Nokia, did not take the news seriously; however, the Huawei's Red Team was keenly aware that the mobile phone environment was changing and predicted that terminals would become increasingly important. The Red Team went to work, carrying out research over the following months. In 2008, Huawei initiated negotiations with private equity fund firms, such as Bain Capital, to sell its terminal business. At that point, the Red Team wrote a one-page report with conclusion: The terminal-channel-cloud trinity would become the future of the telecommunications industry. Terminals determine user demand, the Red Team pointed out, and selling them was to abandon the company's future. The Red Team successfully prevented the sale of the terminal business, thereby providing room for Huawei's future business transformation.

The Red Team also played an important role in Huawei's strategic decision to acquire a U.S. fiber company and gave up the acquisition of Marconi, a British telecommunications and engineering company. The Red Team has contributed significantly to Huawei while staying out of the public eye.

What is the function of Huawei's Red Team? At a meeting, Ren Zhengfei alluded to the Maginot Line leading to World War II to make a metaphor: "We have to create a protection mechanism within Huawei, we must let the 'Red Team' have a high profile. 'Red Team' may be nonsense, or even seemingly mad, but they dare to think, dare to say, and dare to do. We must pay attention to the role of the Red Team and let them try to deny the Blue Team (referring to the frontal forces)" (Ren 2003).

In Ren Zhengfei's words, "If you don't know how to defeat Huawei, you have reached your ceiling" (Ren 2003). According to Huawei's inside policies, Blue Team commanders should be selected from outstanding Red Team managers.

4 Mutual Transformation between Red and Blue Teams

In 2008, Huawei's 2G products were still in the mainstream market; however, 3G was in the exploratory period, and experts predicted an explosion of mobile user data traffic. Femto, a new wireless communication base station that could be used in homes and offices was gaining popularity. Femto was easy to install and could quickly improve signal quality. Many companies were very optimistic about the technology and predicted by 2010, global annual shipments of the new base station could reach millions of units.

In the traditional telecommunications industry, wireless networks were mainly based on deploying macro base stations; however, because the technology threshold for deployment was quite high, only large manufacturers could produce them. The emergence of Femto encouraged many small manufacturers. At the same time, chipmakers were also scrambling to introduce serialized chips, making the development of wireless communication base stations as simple as Wi-Fi and greatly reducing entry barriers. More than 100 companies around the world were producing and installing wireless cellular base stations. These small businesses initiated price wars to survive, and the products on the market were varied. This competition led to both low quality and low prices of network solutions, and the demand for high reliability and stable network stations continued.

In this context, Huawei's wireless product line executives made a prudent and innovative decision: to form a Red Team for wireless business, exploring Femto's technology and end-to-end solutions. Working around the clock, the Red Team developed a high-quality new product: LampSite. The wireless Red Team went to Japan—the most mature market for mobile broadband—to find opportunities. At that time, data traffic in hot spots such as Tokyo Ginza was exploding, but traditional solutions could not meet market demand.

Wang Tao, who headed up the wireless product line, introduced LampSite to the CTO of a major Japanese company. When the CTO saw it, he could not put it down and remarked, "This is just what I want,"

while exchanging ideas with Wang Tao's technical team. The translator who was present at the meeting excitedly told his Red Team colleagues about the CTO's reaction. A few days later, the Red Team received an official email from the CTO, asking Huawei to provide a complete commercial solution as soon as possible and promised to cover R&D expenses in advance. At the 2013 Chinese Spring Festival, the Red Team members worked hard on the Songshan Lake production line. At the same time, they were learning quality control from other product lines and constantly improving production line equipment and processing technology. To keep up with production progress, many members worked two shifts for consecutive months, and thus finally ensured the quality of more than 300 modules.

In June 2013, the first generation of LampSite was officially produced and shipped to the global market. LampSite's high-quality network experience attracted customers in China, South Pacific, Southeast Asia, and Europe.

In this case, we see that the asymmetry between the Red Team and the Blue Team was not static but became mutually transformed. In military simulations, the Red Team and the Blue Team competed without understanding each other's force deployment, combat strategies, or tactical intentions. The possibility of failure and victory was also amplified. But as both parties gained more knowledge of each other, their strategies and tactics were improved to a new level. Similarly, in a firm's confrontation between Red and Blue Teams, if the Red Team's disruptive innovative project had been verified by the market and was making certain optimistic progress, it could then scale up progress, and the Red Team could be switched to the Blue Team. After the market triumph of Femto, the wireless Red Team was successfully transformed.

Within firms, Red Team and Blue Teams might have different resources, indicators, incentives, and cultures to support different strategies. For example, the Google X Research Lab is a typical Red Team initiative in which projects are limited to development within two years and thereafter abandoned. After successful development in the lab, the project will be transferred to Google, stripped out to form a new company, or authorized to other parties. The establishment of Alphabet has expanded the growth space of Google X.

5 Red Teaming as a Learning Mechanism from Rivals

In the second half of 2016, China's two most iconic IT companies each held a grand event: Huawei's Huawei Connect Conference (HCC) held in Shanghai from August 31 to September 2 and Alibaba's *Yunqi* Conference held in Hangzhou from October 13 to October 16. Both conferences were full of enthusiasm and momentum with cloud-oriented themes that were aimed at the Chinese cloud market where their respective styles and practices were different.

A group of people on Huawei's Red Team followed, tracked, and analyzed Alibaba's *Yunqi* Conference, including the sub-forums. Their main objective was to study the dynamics of Alibaba's cloud computing and big data industry. At the end of the event, everyone from the Red Team agreed that the most impressive part was not Alibaba's technology but the conference organization, which provided a strong and interesting contrast with Huawei's HCC. After comparing *Yunqi* with HCC, the Red Team found some strengths of *Yunqi* and weaknesses of HCC, which are outlined in the subsequent sections.

First, the Red Team found that the *Yunqi* conference more fully reflected the young, open, shared spirit of the Internet, thus attracting many young people. VIP customers were accepted as ordinary guests at the conference, and the cost of running such a *Yunqi* meeting was low. The guests enjoyed a great time with each other in the *Yunqi* concert. Even Jack Ma (the founder of Alibaba) sang a song.

The *Yunqi* conference organization was pragmatic and energetic. Although there were some high-profile keynote sessions, the sub-forums and lectures from different tracks were more important. The content was rich, the participants were able to find their favorite sessions, and all forums were full until the last day. This efficiency made it easy for customers, partners, and developers to find their own interests and business opportunities.

The conference also reflected a strong crowdfunding and ecological spirit. More than 80% of the exhibition space was given to Alibaba's partners, and two-thirds of the topics did not come from Alibaba. After each

session, the host would encourage participants to score the speakers' performance on the Alibaba's APP, which might offend the external speakers. The feedback directly affected the subsequent arrangements, issue selection, and forum agendas.

In the main sub-forum speech, many Alibaba product managers (similar to Huawei's mid-level managers) were on the stage. Although mid-level staff, they were still familiar with technology and business, and their presentations contained critical and interesting information. Customers communicated with them effectively.

Last, Huawei's Red Team members felt the strong self-propagating power of digital marketing. During the conference, new media communication was carried out almost in real time, and the content packaging, frequency, and quantity represented Alibaba's strong digital marketing capabilities. *Weibo* and other social media reported the conference in real time. This showed Alibaba's strong background in Internet media and added to the popularity of the conference.

After the summary, the Red Team provided a report to the Huawei headquarters with the following suggestions. First, Huawei should learn from Alibaba's spirit of equality, vitality, and rejuvenation. Huawei is an entrant in the IT field. Should Huawei shape its corporate image as a middle-aged man or as a younger, more energetic and creative one? It is a question worth considering.

Second, Huawei should learn from the spirit of pragmatism and business supremacy. Customers and partners were invited to the conference at high cost, and as such, they could see the strength of Huawei. In addition, the exhibition content can be more engaging and impressive, so that partners and customers can understand the service brought by Huawei. The fundamental purpose of the conference is to create a space for further cooperation.

Third, it is also worth learning from crowdfunding model of the *Yunqi* Conference.

Fourth, Huawei should sharpen their communication skills. Alibaba spent modestly two million to put on a grand event at the *Yunqi* Conference. However, in contrast, Huawei's large-scale exhibition cost tens of millions. Internet media, social media, and self-media have become increasingly influential in communications. Compared with the

conference expenses, the cost of media is not high. Huawei should have strengthened implementation of such tools before, during, and after events to promote the ideas propagated during the conference.

Fifth, the closed-loop management of the *Yunqi* Conference is especially valuable. The conference makes full use of the Internet to investigate customer's interests in advance and set the agenda in a targeted manner. In the near real-time, the audience gave feedback and enabled the hosts to make corresponding adjustments. Huawei had an ongoing problem of self-entertainment and self-perception. Although the hosts celebrated post-conference, in fact, many customers and partners still ran into problems that were unknown to Huawei. Since Huawei already invested heavily on the exhibition, the company should have spent a little more to employ a Red Team or a third party to do an independent post-hoc investigation to determine how Huawei could have improved future conferences.

The Red Team helped Huawei learn from another Chinese e-commerce giant—Alibaba. The Red Team identified Huawei's current shortcomings and improved its absorptive capacity by studying the company's main or potential competitors, thinking as a competitor would and even imitating its competitors.

Firms may fall into the so-called competence trap or experience trap in long-term business operations. The resource-based view posits that ability is the core foundation for the growth and development of a company. Any company with strong competitiveness has its own unique dynamic capabilities and resources (Teece 2014a, b). However, as predicted by the Chinese classic *yin* and *yang* theory, if a focal company depends too much on its competitive ability, it will fall into a learning dilemma. That is, the firm will put too much emphasis on the application of its existing capabilities while ignoring the exploration of new knowledge. It may also overly focus on the domains of its original competence but ignore subversive changes brought about by new industries and technologies (Levinthal and March 1993). The company may lose the sensitivity to changes happening in the external environment and no longer have the courage to change. Motorola, Kodak, and Sharp are all caught in such traps. The new and exciting development of the global automotive industry can serve as a good case in point. Looking forward, predictions on

auto-driving technology by Elon Musk, the founder of Tesla, might be fully realized by 2023. By 2040, the automobile purchasing rate could fall by half, which would have a devastating impact on existing automakers. Therefore, Huawei's Red Team helps the company learn from its competitors to avoid both the competence trap and the experience trap.

6 Red Teaming as Plan B

Against the international political and economic situation in the U.S.-China trade war, Huawei's Plan B strategy (in Chinese words: "spare tire" 备胎) has attracted wide attention. After the U.S. Bureau of Industry and Security (BIS) put Huawei on its so-called Entity List, many American companies had to stop supplying to Huawei, including high tech giants Qualcomm, Intel, ARM, ON Semiconductor, and Teradyne. Even FedEx was required to ban shipments and services to Huawei (Ofek and Masko 2019).

He Tingbo, the president of Huawei HiSilicon, immediately announced the implementation of Plan B in which Hisilicon became the frontal force from the oblique Plan B. The next Plan B, Harmony OS (or *Hongmeng* 鸿蒙操作系统), is also well prepared if Google does not issue a continuance license of Android operation system.

HiSilicon, a semiconductor company, was established in October 2004. Headquartered in Shenzhen, it has design divisions in Beijing, Shanghai, Silicon Valley, and Sweden. HiSilicon products include chips and solutions for wireless networks, fixed networks, and digital media used in more than 100 countries and regions. In the field of digital media, HiSilicon has provided products and solutions for system on chip (SoC) network monitoring chips and videophones. In 2019, HiSilicon's Q1 revenue reached 1.755 billion U.S. dollars, a 41% annual increase. The company's growth rate is much higher than other semiconductor companies.

Before the U.S. restrictions by the BIS, most of Huawei's terminal products used Qualcomm chips. However, Ren Zhengfei anticipated that one day Qualcomm might be unwilling or unable to supply to

Huawei. Therefore, HiSilicon was established to prepared for this potential event. As such, HiSilicon was conceived as a Plan B for Huawei.

In Ren Zhengfei's words: "The Red Team exists in all aspects of Huawei, both at higher levels and lower levels. In my mind, there is also a red-blue confrontation. I'm opposed to my own wishes in my life. The opposition can even be stronger than the wishes. That is, my own criticism of myself is far greater than my own wish. I think the Red Team exists in any field, any process, any time, and space. If there is opposition in the organization, I am more willing to tolerate it. Therefore, we must unite all those who can unite and fight together, including people with different opinions" (Ren 2003).

Events within the trade war verify the wisdom and foresight of Ren Zhengfei. If Huawei had not initiated its Plan B project, the restriction by the BIS would have brought dire consequences to the company. The existence of the Red Team served as a buffer to protect Huawei from external disturbances.

The Boston Consulting Group conducted a study of the company's exploration ratio (compared to exploitation) and found that in the first phase of a stable environment, the performance of firms with low-frequency exploration exceeds that of companies with a fixed ratio (Reeves et al. 2015b). In the second phase of a chaotic and dynamic environment, if a company can transform to adopt a high exploration proportion (red and blue conversion), its performance can exceed that of companies with a fixed ratio. Flexible companies that implement a strong and positive strategy can gain greater competitive advantages by adjusting their exploration ratio dynamically. The dynamic transfer between the Red Team and Blue Teams inside Huawei helps it keep energetic and agile. At the same time, the Red Team serves as a successful buffer to protect Huawei from surrounding external disturbances.

7 Discussion: Red Teaming Strategy and Organizational Learning

Bill Campbell, a well-known Silicon Valley coach and director, believes that the hardest thing for business leaders is not to be a CEO during wartime or peacetime, but to be a CEO doing a good job in both good times and adversity (Mendonca and Sneader 2007). After analyzing the performance of U.S.-listed companies from 1960 to 2011, Boston Consulting found that there were only 2% companies whose market value growth beat the industry average in a both stable environment and a chaotic environment (Reeves et al. 2015a). Management theory concludes that such companies are equipped with the strength of “ambidexterity” (Cao et al. 2009; Reeves et al. 2015a; Rothaermel and Alexandre 2009), which is consistent with Sun Tzu’s concept that “*oblique and frontal relationships engender each other.*” This strength enables such companies to both change strategies and pursue alternatives at the same time. For example, PepsiCo has two separate departments with seemingly oppositional functions: one department maximizes company efficiency and improves performance return, while the other department finds ways to undermine this strategy before a competitor does so.

How do we interpret the strategy of Red Teaming? What kinds of theories exist behind this important practice? Can other firms follow a similar strategy?

First, the purpose of a Red Team is not to reduce conflicts, but to actively create conflicts, which reflects a strategic paradox for all companies. The paradox suggests that many management models and organizational characteristics both appear and are developed in a contradictory manner. Although the logic between these features seems to be independent and irrational, they often appear and are related at the same time (Lewis and Smith 2014). For example, in their book titled *Will the Next Fallen Company Be Huawei*, Tian and Wu (2012) introduced Ren Zhengfei’s management philosophy: “Organization is a complex and dynamic multi-polar interaction chain. The internal and external sub systems and related outside stakeholders are moving forward or backward in the interactive movement. There is never a suitable and unchanging

route. It is always swinging back and forth between left and right, radical and conservative, stability and change, and constantly correcting in trial errors.” For example, the relationship between criticism and construction is a paradox. To solve this paradox, Western management scholars have suggested that we accept the tension generated by contradictions to differentiate, integrate, or replace the contradictions in public opinions, and to accommodate contradictions in order to produce new synergies (Ashforth and Reingen 2014).

The *Taiji* diagram represents Chinese management that was appreciated by Ren Zhengfei: “The white fish in the *Taiji* circle represents *yang*, and the black fish represents *yin*. There is a black eye among the white fish, and a white eye among the black fish, indicating that there is *yin* in the *yang* and *yang* in the *yin*. Everything is changing and infiltrating each other. For example, a person whose advantages and weaknesses are mutually contradictory and interdependent. The rise and decline of an organization are also homologous and mutually causal. This requires leaders, including entrepreneurs, to always face the turbulent dilemma, parse chaos with wisdom and courage, and approach clarity” (Ren 2006). Obviously, starting from the *yin* and *yang* in *I-Ching*, the oblique and frontal relationship in strategy can be better explained. Tang emperor Li Shimin explained this kind of *yin-yang* transition within the Red Team strategy, *The Art of War* “consists in such a way that the enemy, seeing it as a frontal relationship, allows me to surprise him obliquely and likewise creating an oblique relationship from a frontal relationship on such way that the enemy, seeing it as an oblique relationship, allow me to attack him frontally” (Jullien 2000: 38).

Overall, the value of the Red Team lies in artificially creating the opposite of the Blue Team. It also promotes the transformation of *yin* and *yang* in the tension of contradiction, the vitality in conflict, and the extensibility of a complex, dynamic environment so that a firm becomes resilient and adaptable. Amid the ongoing U.S.-China trade war, the U.S. blocked Huawei’s access to American markets and placed restrictions on approaching technologies and suppliers (Ofek and Masko 2019). However, in their semi-annual September 2019 report, Huawei announced semi-annual sales revenue of 401.3 billion RMB (about US\$56.5 billion), with

a consecutive increase of 23.2%, and a net profit margin of 8.7% after the U.S. government ban.

Second, a Red Team does not inherit the original culture of an enterprise; rather, a Red Team establishes the opposite. It can build organizational ambidexterity (Cao et al. 2009; Raisch et al. 2009; Rothaermel and Alexandre 2009). For example, in the 2000s, PepsiCo found that as consumers began to focus on healthy lifestyles, its major competitor was no longer just Coca-Cola since most PepsiCo's products ran counter to these healthy lifestyles. Emerging markets were the main source of growth, while new competitors might adopt new products and marketing methods. To this end, Pepsi established a Red Team department, quickly tested new products and services, and then swiftly promoted the products in various countries. In another example, Lay's offered a \$1 million bonus through the popular crowdsourcing method on O2O for new chip formula. The company launched a new potato chip that was popular with consumers after it successfully debuted in the U.K. The company finally turned to its main market—the U.S. Bartlett and Ghoshal (1997: 151) treated these ways as “Changing and repeating like *yin* and *yang*.”

Third, Red Teaming strategy is not a luxury for adaptation and implementing. The top firm manager should remain vigilant, which is similar to the “winter-is-coming” consciousness at Huawei. Ren Zhengfei always believed that “Huawei is on the verge of collapse,” even when the firm was on the right track with high growth in 2001 (Wagstaff and Yee 2012). As Huawei's mobile phone business grew, Huawei actively created a new Internet brand called *Honor*. The Red Team on *Honor* operated independently and targeted young consumers (Ofek et al. 2018).

A top manager also needs to apply paradoxical thinking to break through the original competency trap (March 2006). This is fundamental and revolutionary self-denial or, in other words, organizational unlearning (Tsang and Zahra 2008). For example, *The New York Times* faced digital transformation of the media and established digital subscriptions using a Red Team. In July 2017, online subscribers officially exceeded one million, and although the department was not the company's main profit maker, it made \$47.5 million in revenue. However, the publication's 2.9 million digital-only subscribers drove two-thirds of the paper's

revenue in 2018 (Donnelly 2018). *The New York Times* successfully transferred its major business to digitization.

8 Conclusion

As Sun Tzu pointed out in *The Art of War*, “oblique and frontal relationships engender each other, like a ring forever following itself, with no head and no tail; who could ever reach the end?” (Lauder 2009), the mutual transformation between Red and Blue Teams in an organization is infinite. The importance of the Red Team is confirmed because such mutual transformation helps the organization learn from the outside world continuously. Huawei uses its Red Team to analyze and imitate its major competitors. Huawei’s Red Team promotes organizational learning and ensures the company’s survival in the event of a disturbing external environment, such as a trade war. In this chapter, we used three examples to explain the functions and importance of Red Teaming strategy at Huawei. We also discussed how Huawei implements Red Teaming strategy to promote organizational learning through the lens of ambidexterity and paradox management. Red Teaming strategy is not just open-minded thinking or an alternative scenario analysis, but a strategy in organizational learning and transition to boost organization resilience.

Huawei’s experience shows the importance of initiating Red Team strategy. Important managerial implications can be concluded from Huawei’s cases. First, the managers should maintain a strong “winter-is-coming” consciousness, which reminds firms of their potential rivals, problems, and dilemmas. This consciousness lays the foundation for implementing Red Teaming strategy. Second, managers should pay adequate attention to the mutual transformation of the frontal and the oblique, which is consistent with *yin* and *yang* transformation in the tension of contradiction in traditional Chinese philosophy. Third, top managers need to apply paradoxical thinking to break through the original competency trap (March 2006) because of the fundamental and revolutionary self-denial role of the trap; in other words, undergo a process of organizational unlearning (Tsang and Zahra 2008). The paradox perspective helps managers reach a clear understanding of present situations and

possible development trends of the focal companies. Overall, Red Teaming strategy help Huawei break through the competency trap and stay resilient in the crises.

Note

1. In the strategic simulation of the U.S. military, the U.S. force is often the Blue Team and the opponent is the Red Team. However, in the Chinese military, Chinese troop is often shown in red on the map colored and called Red Army (红军), and the rival is shown in blue and called Blue Army (蓝军). In this book chapter, we follow the U.S. term and call the imaginary enemy force as Red Team. Also see https://en.wikipedia.org/wiki/Red_team.

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14

Framing National Security Concerns in Mobile Telecommunication Infrastructure Debates: A Text Mining Study of Huawei

Kenneth C. C. Yang and Yowei Kang

1 Introduction

1.1 The Growing Importance of 5G Mobile Communication Infrastructure

The fifth-generation mobile system, or commonly known as 5G, has been claimed to meet the mobile communication needs after its scheduled launch in 2020 (Yan 2019; (Wang et al. 2017). The International Telecommunication Union (ITU 2018: 1) has depicted 5G as “the next generation of mobile standards that promise to deliver improved end-user experience by offering new applications and services through gigabit

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speeds, and significantly improved performance and reliability.” 5G is fundamental to the successful deployment of more advanced information and communications technologies (ICT) and applications such as artificial intelligence (AI), Internet of Things (IoT) (Guo et al. 2019) and Machine to Machine communication (Gijrath 2017), which will constitute an ubiquitous and interconnected mobile communication infrastructure of the future (Wang et al. 2017). 5G connections will reach 1.1 billion users by 2025, according to the GSM Association (Global Systems for Mobile Communications) (International Telecommunication Union 2018). Ericsson has even predicted the total number of 5G users will reach 1.48 billion by 2024 (Wurmser and Enberg 2019), while the total revenues related to 5G will reach USD\$1.3 trillion by 2025 (International Telecommunication Union 2018).

1.2 The Rising National Security Concerns and Huawei

In 1988, Huawei was an insignificant distributor of foreign Private Branch Exchange telecommunications equipment in China (Luo et al. 2011). In less than two decades, the company transformed itself to become a major player in 5G wireless networks, surpassing Sweden’s Ericsson AB in 2018 to become the world largest telecommunications operator (Mascitelli and Chung 2019). Huawei’s unprecedented success is associated with Chinese government subsidy of USD\$75 billion grants (17 times as large as that of Nokia) (Reuters 2019). Huawei’s aggressive business practices have caused national security concerns around the world in 2019 (ibid.). In addition to concerns over Huawei’s business relationship with the Chinese army and its role in surveilling Chinese citizens, scholars have brought up the risk of economic dependence on an authoritarian regime to provide nation’s essential telecommunications infrastructure (Khanapurkar 2019). A recent report has supported Huawei’s role in collaborating with the Chinese government to provide surveillance technologies to monitor local Uyghur Muslim population in Xinjiang (Vanderklippe 2019). As a privately held telecommunications giant, some have accused that Huawei’s founder, Ren Zhengfei is closely

related to Chinese government, People Liberation Army (PLA), and can operate as “a potential spy” (Mascitelli and Chung 2019).

Furthermore, Huawei is reported to control the power grid of the Philippines and can easily shut off its electricity (Griffiths 2019). Many countries (the so-called *Five Eyes* countries that include the U.S., New Zealand, Canada, U.K., and Australia) have blocked Huawei’s participation in the construction of their national mobile telecommunication infrastructures of the future (such as Internet of Things), while Canada and Germany are still reviewing the extent of Huawei’s potential involvement (O’Flaherty 2019). In a recent opinion article in the *New York Times*, Niall Ferguson (2019) has equated the banning of Huawei as part of the on-going Cold War between China and the U.S. in the technology field. Similarly, the spy chief, Bruno Kahl, in Germany has characterized Huawei as a company that “can’t fully be trusted” to suggest its security risk (Donahue 2019).

Therefore, the purpose of this chapter is to examine whether the dominance of Huawei in the 5G market will be perceived to pose serious threats to national security as framed in the print media contents around the world. One of recurrent concerns about Huawei is its involvement with data leak, cyber security, and espionage (Natasha 2019). This study attempts to provide a systematic study of the global media discourse corpus through a computational framing approach to find out how Huawei, as a Chinese brand, has been represented in the national security debates of integrating Huawei to construct the emerging 5G wireless network. More specifically, this study attempts to answer the following research questions:

RQ1: What has the construction of mobile telecommunication infrastructures been represented in the global media discourses?

RQ1-1: What are the recurrent keywords in the media corpus?

RQ1-2: What are the recurrent key phrases in the media corpus?

RQ2: Are there any cross-national variations based on a large-scale text mining analysis in terms of the extraction of key phrases and topics in the global media corpus?

RQ3: Will country animosity against China provide explanations to understand the framing of Huawei?

2 Theoretical Foundation

2.1 Media Representations and Framing Theory

This study is based on the framing theory that has been widely used in social science research (Touri and Koteyko 2015). Framing refers to the purposeful process of editing, organizing, selecting, and presenting information by journalists about a topic to be delivered through a communication medium and platform (Gamson and Modigliani 1989; Novak and Hakena 2014). Most framing research has focused on the selection and presentation of frames to existing media organizations, even countries, to explore their hidden agenda setting purposes (Field et al. 2018). Odijk et al. (2013) point out that framing research can be broadly categorized into two sub-areas, that is, to study the process of how frames emerge (i.e., frame building), or to study the effect of frames on audience (i.e., frame setting).

Traditional framing research relies on the content analysis method to identify recurrent frames in news contents (Entman 1993). In recent years, conventional framing and media representation methodologies are often constrained and criticized by its data processing ability to content analyze a large amount of media data (Lin et al. 2016; Yang and Kang 2018). Traditionally framing research often relies on the subjective interpretation and judgment of media contents through content analysis (Trilling and Jonkman 2018) to develop common themes as identified in the media corpus. Increasingly, computational text processing methods, or commonly known as text-mining methods, have been integrated into the identification of frames (Odijk et al. 2013) in the age of Big Data (Trilling and Jonkman 2018).

Emerging computational research methods have posed challenges to many framing researchers who are interested in studying the co-occurrences of words in media text (Trilling and Jonkman 2018). Similar

to automated content analysis that has been popular as early as 1980s (ibid.), text mining techniques attempt to extract meaningful, repetitive, and useful insights and patterns from unstructured textual data (He et al. 2013) through cluster analysis, categorization, link analysis, topic modelling, and text summarization (Zikopoulos et al. 2012). Particularly, the topic modelling procedure helps to identify and reveal topical patterns in the corpus of media documents (Rathore and Roy 2014).

While most framing research tends to be descriptive (Lin et al. 2016; Yang and Kang 2018) and focuses mainly on recurrent keywords or frames from the collected media discourses, this chapter attempts to go beyond the identification and description of extracted keywords and frames. We aim to provide some understanding of why global media outlets have described Huawei from the national security threat perspective. We rely on the country animosity literature to offer an interpretative perspective to comprehend the results from the computational framing research using a text mining method.

2.2 The Concept of Country Animosity

In the country-of-origin literature, country animosity construct is often defined as “the remnants of antipathy related to previous or ongoing military, political, or economic events” (Klein et al. 1998: 90). When consumers hold a negative and hostile attitude toward a country, it is less likely that they will purchase products manufactured in that country (Nes et al. 2012). Past research has also assessed whether animosity toward a certain country could affect actual product ownership, trust in supplier, evaluation of a brand, and assessment of products in general or in specific categories (Nes et al. 2012: 751–752).

Surging tension between the Western countries and China in general, and U.S. and China in specific, is likely to generate contemporary animosity against China. President Trump’s several executive orders have banned Huawei from obtaining critical technologies and software to sustain its survival (Jing and Soo 2019). Characterizing Huawei as a foreign adversary, many U.S. tech companies have been forbidden to conduct business transactions (ibid.). Animosity against China also concurs with

what American consumers think of China (Lee 2019). According to a survey by the Pew Research Center, 60% of American consumers have an unfavorable attitude toward China, risen from 47% in 2018 (Lee 2019; Silver et al. 2019). Only 26% of American consumers hold a favorable view of China, dipping from 44% in 2017 (Silver et al. 2019). In terms of economic animosity, 41% of American consumers believe China's growing economy is a bad thing for the U.S. in the same Pew Research Center survey (ibid.).

We relied on several global surveys of what local consumers think of China to compile country animosity index against China (Delvin 2018; New Zealand China Council 2018; Pew Research Center 2014). Globally, Pew Research Center (2019) surveyed 34 countries and has found that, on a global scale, 40% hold a favorable view of China, while 41% have an unfavorable view (Silver et al. 2019). Noticeably, Western and democratic countries tend to hold a more negative view of China, as seen in un-favorability statistics (i.e., country animosity) below: Italy (57%), U.S. (60%), Canada (67%), Germany (56%), France (62%), Sweden (70%), Spain (53%), U.K. (55%), South Korea (63%), India (46%), and Australia (57%) (ibid.). Less favorable views of China are also positively correlated with how China's record in human right protection (Delvin 2018). Country animosity index (14%) against China among New Zealand's residents is based on a survey by New Zealand China Council (2018). In this study, we depend on insights from the country animosity research to interpret text-mining results in our analyses.

3 Research Method

3.1 Text Mining as an Emerging Research Technique

Mining text data has been gaining attention among social science scholars (Diakopoulos et al. 2013; Solka 2008; Trilling and Jonkman 2018; Yang and Kang 2018). This research method has been used to discover and extract "interesting, non-trivial knowledge from free or unstructured text" (Kao and Poteet 2007: 1). Text mining techniques have allowed

researchers to identify repetitive keywords, phrases, topics in the corpus, and to explore relationships among these recurrent concepts in the media data (Yang and Kang 2018) from which public opinions are shared and national policy agendas are established to better understand the association between Huawei and national security threats.

However, unlike traditional framing research, the text-mining methods have empowered researchers to analyze a large number of media discourses without the subjectivity of human coders in identifying and categorizing repetitive keywords or frames (Lin et al. 2016; Yang and Kang 2018). Overall, text mining includes tasks such as classifying and clustering documents into various topic areas that have similar meanings or have met certain criteria (Solka 2008) in a more cost-effective and time-efficient manner, while maintaining the objectivity in data extraction (Yang and Kang 2018). Text mining has recently emerged as a feasible method for communication scholars to study news frames while reducing the possibilities of human interference (Yang and Kang 2018). Several text mining procedures and techniques have been employed in previous corpus-based news framing analysis (Field et al. 2018; Greussing and Boomgaarden 2017; Touri and Koteyko 2015) to guide the selection of text mining techniques in this study.

This research mainly relies on the automated frame analysis to generate empirical results for discussions. Most relevant to this study, keyword function is useful to highlight most salient ideas and opinions as reflected in the media discourses as possible new frames (Touileb and Salway 2014: 635). *QDA Miner* and *WordStat* offer an easy-to-use tool to extra key phrases in the unstructured texts from our media corpus. *QDA Miner* allows the identification of keywords with the highest number of frequencies from the media corpus and to reflect the most important and salient frames related to the news discourses (Touri and Koteyko 2015). According to Touri and Koteyko, the identification of keywords will help the researchers to find “important concepts in a text which may help ‘diagnose’ and ‘nominate’ central ideas around which the frame is constructed” (ibid.: 605).

Researchers who employ text-mining methods usually follow the steps, that is, text pre-processing, applications of text-mining software, and post-processing (Zhang et al. 2015). The pre-processing step includes the

collection of media corpus to compile the database for later analyses. The pre-processing of raw data (Lin et al. 2016) aims to ensure the integrity and relevance of the extracted media texts in the corpus. Kobayashi et al. (2018) point out several important issues at this phase of text-mining project, such as privacy, legality, and data storage.

3.2 Sampling Method and Media Corpus

As the first step to pre-process data, the researchers compile the media corpus, based on one key phrase search, *Huawei* and *National Security*, of Nexis UNI database. The first search has generated 1839 articles that include all major international news sources that include major print media organizations in respective countries (refer to Table 14.1). Once the media corpus has been compiled, we follow the data-cleaning procedures in deleting unimportant words or characters, lowercase conversion, stop word removal, text segmentation, and word stemming (Kobayashi et al. 2018). In the end, a total of 1527 articles has been used. To be more specific, 404 articles are from China and include *China Daily* (U.S. edition and Africa weekly edition), *Global Times*, *South Morning China Post* (from Hong-Kong, SAR). These articles account for 26.5% of the media corpus. Two major U.S. newspapers are included, *The Washington Post* (74 articles) and *The New York Times* (235 articles), accounting for 19.6% of the media corpus. On the other hand, 277 newspaper articles are from reputable U.K. newspapers, such as *The Times* and *Financial Times*, accounting for 18.1% of the media corpus. The media corpus also includes newspaper articles from South Korea (11 articles, 0.7%), Canada (103 articles, 6.6%), New Zealand (69 articles, 4.5%), Australia (339 articles, 22.2%), UAE (4 articles, 0.3%), and Iran (3 articles, 0.2%) (Table 14.1).

Table 14.1 Newspapers in our corpus from Nexis/Lexis academic database (Subcategory: Major world newspapers) [search pair: “Huawei” and “National Security”]

Country	Newspaper titles	<i>N</i>	Valid <i>N</i> (removing after the pre-processing procedure)
China	<i>China Daily</i> (U.S. Edition)	67	63
	<i>China Daily</i> (Africa Weekly Edition)	81	72
	<i>China Daily</i>	175	116
	<i>Global Times</i>	15	15
	<i>South China Morning Post</i> (Hong-Kong)	172	139
South Korea	<i>Korea Times</i>	11	11
Thailand	<i>The Bangkok Post</i>	9	8
Singapore	<i>The Straits Times</i>	9	9
India	<i>Hindustan Times</i>	4	2
	<i>Indian Express</i>	1	1
U.S.	<i>The Washington Post</i>	74	71
	<i>The New York Times</i>	235	228
U.K.	<i>The Times</i>	106	52
	<i>Financial Times</i>	293	225
Canada	<i>The Globe and Mail</i>	103	101
New Zealand	<i>The New Zealand Herald</i>	73	69
Australia	<i>Sydney Morning Herald</i>	78	67
	<i>Canberra Times</i>	16	6
	<i>The Sun Herald</i>	3	3
	<i>Australian Financial Review</i>	105	105
	<i>The Australian</i>	201	157
UAE	<i>Gulf News</i>	4	3
	<i>Gulf Times</i>	1	1
Iran	<i>Iran Daily</i>	2	2
	<i>Iran News</i>	1	1
Total		1839	1527

4 Findings and Discussions

To answer the first research question, several text-mining techniques are useful to provide empirical data. Text mining research often relies to the extraction of keywords, phrases, or terms to estimate their relative

importance by examining the frequency statistics, called Term-Frequency (TF) or TF-IDF (Term-Frequency-Inverse document Frequency) (Teso et al. 2018). Kobayashi et al. (2018) claim that a word or a phrase with a low IDF can be removed because they have little discriminatory power and can be discarded in the analysis. TF-IDF are statistics that take into consideration both the importance of a word or a phrase and their specificity.

We begin with a word cloud analysis procedure to identify frequency of keywords, phrases, and terms in a graphical manner (Srivastava 2014). Our first research question and two of the sub-questions aim to identify popular recurrent keywords and key phrases that are used by media outlets around the world to frame national security issues related to Huawei. Among news articles from China ($N = 404$), recurrent keywords such as “trade” ($N = 42$, TF-IDF = 41.3) and “security” ($N = 31$, TF-IDF = 34.6%). On the other hand, articles from non-Chinese sources ($N = 1,125$) show keywords such as “security” (TF-IDF = 120.3), “ban” (of Huawei) (TF-IDF = 72.1), while “trade” (TF-IDF = 66.2) is not as prominent as the security-related frames.

Despite the hype about 5G’s enhanced transmission rate and resource mobilization, the global media discourses have apparently gone beyond the technical superiority frame which emphasize the telecommunication infrastructure’s spectral and energy efficiency to provide better user experiences (Wang et al. 2017). The extracted keywords have shown that the adoption of Huawei’s 5G technology is more than a trade or business decision, but it also involves national security concerns. Our findings concur with existing literature that investigates problems associated with the widespread adoption of advanced information-communication technologies (such as 5G) that are bound to transform contemporary society economically and politically (Eriksson and Giacomello 2006). Glover-Rijkse (2019) notes that “mobilized networked infrastructures” (MNIs) can support the free flow of communication and information (380), suggesting the growing significance of 5G wireless network in contemporary society. The euphemistic claim of a connected world via 5G, best manifested in IoT applications, is likely to pose threats to national security (Isaak 2018). Furthermore, the emergence of a global network society and the subsequent loss of national sovereignty and identity in the global

CHINA S HUAWEI
 SABRINA MENG WANZHOU
 HUAWEI CFO CHINESE TECH
TRADE WAR
 MENG WANZHOU
 NATIONAL SECURITY DONALD TRUMP

Fig. 14.1 Extracted key phrases from China media corpus. (Source: The authors)

5G network has posed fundamental challenges to a country's security (Castells 1989,1996, 1997, 2000).

In terms of key phrase extracted from the media corpus, the Chinese media articles has shown a clearly observable emphasis on phrases such as “trade war” (TF-IDF = 24.3%), “Meng Wangzhou” (TF-IDF = 21.5%), “Huawei CFO” (TF-IDF = 14.9%), while “national security” (TF-IDF = 12.3%) is not the most prominent key phrase in the media corpus from Chinese newspapers (Fig. 14.1).

As seen in Fig. 14.2, it is apparent that Huawei has often been mentioned with terms such as “national security” (TF-IDF = 38.9%), “security concerns” (TF-IDF = 29.6%), “security fears” (TF-IDF = 20.5%), “security threat” (TF-IDF = 18.9%), “security risk” (TF-IDF = 15.4%), and “cyber security” (TF-IDF = 13.6%). Unlike the dominant representations of trade and economic concerns among Chinese media, “trade war” (TF-IDF = 22.1%), “Chinese telecom” (TF-IDF = 25.3%), and “Chinese tech giant” (TF-IDF = 13.6%), and “Chinese firms” (TF-IDF = 22.1%) are relatively less prominent in the non-Chinese media corpus (Fig. 14.2).

The framing practices of Huawei between Chinese and non-Chinese media outlets are particularly interesting when news about Huawei's undisclosed behaviors. For example, the African Union headquarters in Addis Ababa are reported to transmit data to servers in Shanghai, China, through Huawei's telecommunications equipment inside the building (Natasha 2019; O'Flaherty 2019). Even Huawei's managers at Czech



Fig. 14.2 Extracted key phrases from non-Chinese media corpus. (Source: The authors)

Republic have admitted that they have been instructed to collect personal information about their clients (Markovic 2019). As media often set agendas about how Huawei will be perceived, anecdotes such as the above are likely to shape what local consumers think of China and perceive Huawei as a Chinese telecom brand. Negative country cues about China are likely to affect Huawei's brand image as previous country-of-origin literature has reported effects of country cues on consumer purchase behaviors (Dursun et al. 2019; Nes et al. 2012). For Western countries and their consumers, it is also likely the heightened country animosity against China can further deteriorate China's image, resulting in the reduction of Huawei's brand equity and subsequent purchase behaviors (Klein et al. 1998).

To answer our research question 2 on cross-country framing variations, it is found that Huawei, as a Chinese brand, countries vary in terms of its association with national security theme. Countries such as Australia, Canada, U.K. and U.S. are found to tie Huawei with national security concerns (Fig. 14.3).

To further examine if country animosity against China might offer better understanding of cross-country variations in their framing practices (RQ3), the linear regression analyses find that a country's animosity against China is significantly associated with how Huawei is framed to a national security concern ($\beta = 0.73$, $t = 3.17$, $p < 0.05$) (Model 1) and security fear ($\beta = 0.72$, $t = 3.11$, $p < 0.05$) (Model 2). Furthermore, the positive β coefficient means that the higher consumers hold country

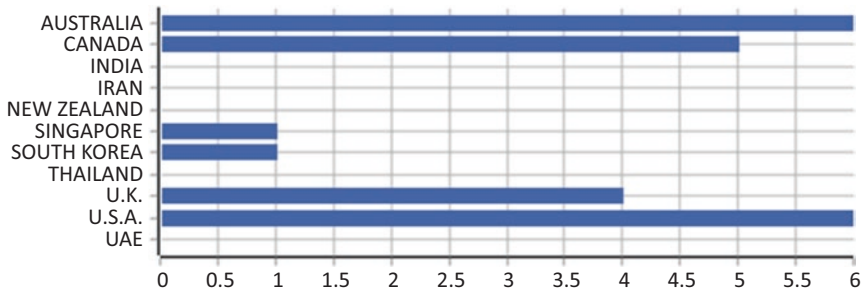


Fig. 14.3 Cross-national comparison among non-Chinese media corpus (the key phrase: “national security”). (Note: The bar chart is based on the word frequency of the extracted phrase. Source: The authors)

Table 14.2 Linear regression analyses

	β	t	Result
			Model 1: $F = 10.08$, $df = 1/9$, $p = 0.01 < 0.05$
“National Security” Frame ($R = 0.73$, $R^2 = 0.53$, Durbin-Watson = 1.93)			
Country animosity against China	0.73	3.17*	RQ3: Significant association found
			Model 2: $F = 9.65$, $df = 1/9$, $p = 0.01 < 0.05$
“Security Fear” Frame ($R = 0.72$, $R^2 = 0.52$, Durbin-Watson = 1.62)			
Country animosity against China	0.72	3.11*	RQ3: Significant association found

Note: ***represents $p < 0.001$; **represents $p < 0.01$; *represents $p < 0.05$

animosity against China, the more local media outlets would frame Huawei with national security and security fear frames (refer to Table 14.2).

The finding is also concurred with a growing number of country animosity studies that has begun to explore antecedents that could trigger animosity, whether the feelings of animosity would evolve over time, and how the variations of animosity could predict economic interactions and consumer behaviors (Jung et al. 2002; Lee and Lee 2013; Nes et al. 2012; Park 2014). Negative news about Huawei is likely to damage China’s international image and impact Huawei’s attempt to build its own brand as a superior 5G equipment provider. For countries that has historical animosity, or what Klein et al.’s (1998) call war/military animosity, the

negative media framing practices of both China and Huawei are likely to strengthen the already existing consumers' feelings and perceptions about China because of past wars or hostilities (Lee and Lee 2013). From this perspective, negative media framing of Huawei as a national security threat also foster local consumers' contemporary animosity because of a feeling of enmity related to social unrest, economic situation, unemployment, or trade tension that currently occur (*ibid.*). Regardless of the dimensions of these country animosities, they are likely to affect the branding of Huawei to succeed as a major 5G telecommunication player around the world.

5 Conclusion

The associations of Huawei with national security concerns in the extracted key phrases such as “national security,” “security threat,” “security fears,” and “cyber-security” among non-Chinese media corpus are particularly important to the survival of this Chinese telecommunications giant in the Western world. The perceptions of China and Huawei as a hostile entity have impacted on the branding of Huawei around the world. The banning of Huawei can be argued as an outcome of such animosity. Previous country animosity literature has confirmed effects of animosity on consumer behaviors (Abraham 2013; Lee and Lee 2013). Abraham's (2013) study confirms that country animosity, regardless of its levels, negatively affects local consumers' willingness to purchase a product imported from that country. It is likely that negative brand perception of Huawei as potential threats to national security will have even more severe impacts, given the rapid increase of animosity against China across the world (Silver et al. 2019).

One of the contributions of this study is to employ text-mining techniques to help analyze global media discourses and have identified recurrent keywords, and key phrases about Huawei's current dilemma from a large set of cross-national media narratives. The study has provided evidence to demonstrate Chinese media have framed Huawei more from the trade war perspective, while non-Chinese media focus on its security concerns. Furthermore, this study has attempted to understand the

associations between media framing practices and local consumers' country animosity against China.

However, this study has the following limitations and warrants future research. Firstly, the study relied on favorability scores reported in the secondary data published by Pew Research Center (2014, 2019) and New Zealand China Council (2018). Given the global nature of this study, we are not able to study the multi-dimensionality of country animosity, due to the lack of cross-national data on the perceptions of China. We relied on existing datasets from Pew Research Center (2014, 2019) to obtain individual country's animosity against China. Our empirical data from two linear regression analyses have confirmed the significant relationship between consumers' country animosity perceptions and how local media frame Huawei with national security concerns. Future research may benefit from surveying cross-national consumers to obtain more current animosity data.

Secondly, this study has treated country animosity as one single index without studying the multi-dimensionality of country animosity against China. However, increasingly, scholars are also interested in advancing from traditionally two-dimensional country animosity construct (i.e., war and economic) (Klein et al. 1998) to a more multi-dimensional approach (Jung et al. 2002). Many scholars have further postulated that country animosity should be studied as multi-dimensional to better examine this important construct (Jung et al. 2002; Kalliny et al. 2017; Lee and Lee 2013; Nes et al. 2012). For example, Nes et al. (2012) employ a qualitative interview to identify four country animosity dimensions, that is, economic, military/war, people, and politics/government. They argue that these dimensions will influence consumer purchase behaviors through affect (ibid.). Future researcher may benefit from investigating different animosity dimensions (such as historical, economic, cultural, contemporary, religious) on media framing practices.

Thirdly, the number of newspaper articles in the corpus does not allow a longitudinal analysis of the data to see how frames evolve over time (Greussing and Boomgaarden 2017) to further examine how the perceptions of Huawei, as a Chinese brand, could change concurrently with how local consumers think of China favorably or unfavorably. Future research will benefit from collecting discourses from other media genres

such as social media posts, electronic media transcripts, or government hearing transcripts to uncover various framing practices. Finally, text-mining techniques have their methodological limitations in terms of the processing of words, keywords, phrases, and dictionaries in identifying recurrent linguistic patterns and trends to generate findings (Tesoia et al. 2018). Scholars who employ these computational techniques have warned the reliance on a single word may ignore the diversity of word meanings (i.e., polysemy) (ibid.). They also caution that the use of keywords and key phrases similarly runs into problems of reducing their importance in different contexts (Tesoia et al. 2018; Yang and Kang 2018).

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15

Image of Ren Zhengfei: Model Entrepreneur or an Agent of State Power?

Matthias Niedenführ

1 Introduction

On December 1, 2018, Sabrina Meng Wanzhou, deputy chairwoman of the board and CFO of Huawei, was detained and arrested in Vancouver Airport at the request of the United States, on the basis of a mutual extradition agreement with Canada. Meng has been in house arrest ever since while fighting a legal battle to prevent the extradition. She is charged with having misled US authorities on deals with Iran of a Huawei subsidiary in Hong Kong in contravention of a US embargo.

This incident further escalated an already intensive trade war between China and the United States to the level of a conflict over technological leadership. It also triggered harsh Chinese responses against Canadian citizens and economic interests. It is but an episode in a longer confrontation between Huawei, arguably China's most successful high-tech company, and US authorities. This conflict is connected to the unprecedented

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three-decade rise of Huawei from a small company in the Special Economic Zone (SEZ) of Shenzhen near Hong Kong, producing simple telecommunication equipment, to a competitor on par with Western companies such as Cisco, Nokia, and Ericsson. Huawei not only was able to drive Western competition out of the domestic market but also seized global market shares, while covering not only digital infrastructure but also mobile devices.

As early as 2013, an alleged close cooperation between Huawei and the Chinese government raised security concerns in the United States and United Kingdom, leading to Huawei being excluded from a bidding process for procurement of digital network equipment (Zhuo 2019). While this exclusion made little headlines, the 2018 accusations by the US administration of Huawei's alleged complicity in allowing backdoor entrance to its products to China's intelligence agencies received global media coverage. The trade war and the fact that Huawei is to some extent singled out by the United States seems to be a response by Western governments to President Xi Jinping's 2015 proclamation of the *Made in China 2025* plan, declaring China's ambitions for world leadership in key technologies. This prompted a global backlash of the established industrial countries. The allegation that Huawei equipment was not reliable was reiterated by several US allies, particularly members of the "Five Eyes."

Huawei today is in a pole position in the global telecommunication equipment market, especially thanks to its 5G technology. The company claims that this rise was possible thanks only to its heavy investment in R&D (over 10% of sales revenue), aggressive recruiting strategies, and its position as China's number one patent holder (Sun and Quan 2009). The United States on the contrary claims this success to be the result of foul play in the form of inscrutable and unfair state support for Huawei, which the United States sees as one of many forms of non-compliance of China to its WTO commitments, creating a non-level-playing field for foreign companies in the Chinese market.

The goal of US policies such as blacklisting Huawei-made telecommunication equipment as a security concern in government agencies or anywhere in allied countries telecommunication infrastructure, as well as prohibiting US companies from providing chips or software for Huawei gadgets, clearly is to stifle and inhibit a further growth of the company.

The United States has unleashed “a barrage of actions against Huawei” because it believed that the Chinese telecoms giant “spies for the Chinese government” and “threatens Western interests” (Hille 2018). The ultimate aim of the global US campaign against Huawei can only be to “cripple their business” (*Economist* 2019).

Against the backdrop of these developments, the Vancouver incident brought not only Meng herself into the spotlight of global attention, but also her father Ren Zhengfei, founder and CEO of Huawei. People pay more attention not only to the company but also to the “man behind Huawei” (Pearlstone et al. 2019). Leading media covered the global battle of the United States against this Chinese company so far, but the founder of Huawei is still a bit of a mystery. Ren Zhengfei, who claims to have built his private company from humble beginnings in the late 1980s to a high-tech giant, is mostly elusive and enigmatic. His low-profile approach is very different to that of other successful entrepreneurs in China, such as Jack Ma (Alibaba), Liu Chuanzhi (Lenovo), or Pony Ma (Tencent). But since December 2018, Ren all of a sudden finds himself under international scrutiny and now gives interviews to global media, which he avoided for most of his career.

2 Chinese Voices About Ren Zhengfei

While being unable to present a complete picture of the man, this chapter aims to illuminate the scope of the sometimes-contradictory depictions of Ren Zhengfei in Chinese and Western media. After the Meng incident, a flurry of articles appeared on influential mainland Chinese platforms—such as Sina, Sohu, and Huxiu¹—shaping his image in the Chinese public eye. Many of these articles draw heavily from Chinese biographies, as well as biographies in English written by Chinese compatriots. I focus my analysis on articles posted and commented on by Chinese entrepreneurs in discussions in WeChat groups of the Chinese business community, such as Annual Entrepreneurs Meeting (AEM), Humanistic Business (HB), Private Board of Directors (PBOD), and BoAo Confucian Entrepreneur Forum (BCEF). These exclusive groups with over 1600 members are “by invitation only” and inaccessible to

most outside observers. I was fortunate enough to gain access through my engagement in research on “Confucian Entrepreneurship” (*rushang* 儒商). This emerging type of entrepreneur in China is characterized by an appreciation of Chinese traditional culture and the attempt to implement it in business. A large number of entrepreneurs identify with this form of Chinese entrepreneurship, both within the WeChat groups analyzed here as well as in exclusive business forum events, such as the “Discourse on Confucian Entrepreneurs” organized by Cheungkung Graduate School of Business (CKGSB)² and the Institute of Advanced Humanistic Studies (IAHS)³ in Beijing, as well as the BoAo Confucian Entrepreneur Forum⁴ on Hainan. Several thousand participants engage in debates on Chinese entrepreneurship in the world, among them business leaders such as Yan Jiehe (China Pacific Construction Group), Cheng Feng (HNA), or Liu Chuanzhi. At the 2019 Forum, Ren Zhengfei was widely lauded as an exemplary leader and his biography by Wang Yukun was circulated widely.

The comments I analyze in this chapter complement the officially controlled discourse with bottom-up statements from Ren’s peer group. The quotes gathered between January 2019 and November 2019 are a random sample, but my focus was on quotes that comment on Ren Zhengfei’s character or Huawei’s innocence vis-à-vis the US accusations.

As such they can only provide an incomplete overview of Chinese businesspeople’s view on Ren Zhengfei, but they do offer a valuable glimpse into the discussions of his peer group. The following overview shows the size of the groups, and the mentioning of the search terms “Huawei” and “Ren Zhengfei” respectively (Table 15.1):

Table 15.1 WeChat survey of Chinese businesspeople on Huawei and Ren Zhengfei

WeChat group	Participants	“Huawei”	“Ren Zhengfei”
Annual Entrepreneurs Meeting (AEM)	226	245	196
Humanistic Business (HB)	24	69	37
Private Board of Directors (PBOD)	455	38	36
BoAo Confucian Entrepreneur Forum (BCEF)	961	193	173
	1666	545	442

When quoting from the WeChat groups, I use the group abbreviations to maintain anonymity of the individual commenter.

3 Ren Zhengfei's Image and the Emphasis on "Enduring Hardship"

3.1 Ren's Youth and First Career

While in Western contexts, the family and biographical background are usually not a focus when reporting on leading entrepreneurs and top managers, this is different in China where biographical bits of information receive wide attention. They are in fact the main conduit to generate sympathy for the successful entrepreneur or manager.

The biographies as well as management handbooks on Huawei place a huge emphasis on the adverse conditions Ren Zhengfei had to endure in this youth and during the early phase of the company. The aforementioned Chinese media articles pick up these stories of hardship and turn them into the core notion of Ren's public image. A narrative of destitution resonates with Chinese readers, especially entrepreneurs, but is less a part of Western reports on him. Ren Zhengfei, born in 1944 in Guizhou Province, had harrowing experiences in his youth with his parents raising seven children during the extreme famine of the "Great Leap Forward" (Li 2019: 70; Schmidt 2018). Ren himself describes his experience in *Huashang Taolüe* 2018 as follows:

At that time, our family implemented a strict meal sharing system to control the rationing system [...] to ensure that everyone was able to survive. If it wasn't for this, one or two siblings of mine would not be alive today. I can really understand what it means to survive (*Huashang Taolüe* 2018).

Ren's father Ren Moxun had been a teacher and this "bourgeois class background" negatively affected the prospects of his son during the Cultural Revolution (1966–1976). Ren attended the Chongqing Institute of Civil Engineering and Architecture in the 1970s, and later joined an infrastructure engineering unit as a "scientific and technical model

soldier” of the People’s Liberation Army, charged with building a chemical fiber factory in northeast China (Sun and Quan 2009; Ho 2019). Harsh conditions there made him “suffer extreme hardships,” but he was grateful for the opportunity to “be allowed to understand modern equipment” (Zhang 2019). Ren recalls:

In 1974, the mass movement was in full swing [... and] reading was a privilege. At that time, reading too much in other places was subject to criticism. Only in this factory could you read a book. (Zhang 2019)

Mao Zedong had called millions of “red guards” to action to stop people he defamed as “capitalist roaders” (*zouzipai*) from rolling back socialist changes to society. In these tumultuous years, most representatives of expert knowledge and traditional values, such as teachers, professors, and classical scholars, were brutalized, sent to re-education work camps or dismissed, leaving the educational system dysfunctional. In this hostile environment, Ren’s father—an intellectual—was persecuted (Fogden 2020). On the other hand, Ren’s tainted background gave him an edge since he had been taught how “to scrutinize things” (Zhang 2019).

Eventually, the red guards themselves were seen as a problem and were sent to the countryside (*xiafang*) to “learn from the peasants”. The “reading privileges” Ren mentions refer to his rare chance of a technical education in a time when most of his peers were deprived of higher education. The sources in my analysis concentrate on establishing the close parent-child relationship that shapes Ren’s life. His father instilled in him a deep appreciation of knowledge with this instruction: “Remember that knowledge is power, when others don’t learn, you have to learn, don’t follow the crowd” (Zhang 2019).

In the early 1980s, the changes to Chinese society occasioned by Deng Xiaoping’s policy of “Reform and Opening” (*gaige kaifang*) ended Ren’s modest but reliable career in the military when the government slashed the size of the army, leaving him and many others without state support. He remembers it feeling “like we were abandoned by society” (Pearlstone et al. 2019).

The importance of military ties of Ren Zhengfei are emphasized in Western reports critical of Huawei's rise, such as in this report on American security:

Although it claims to be a private company, an assertion that has been challenged because its structure of ownership is opaque and contested, Huawei has a history of strong state support and apparent linkages to the Chinese military and intelligence that start with its founder and persist to the present. (Kania 2019)

This claim that Ren's history in the PLA makes him a proxy of Chinese military and intelligence organization security is rejected by an American ex-military businessperson who was a competitor of Ren Zhengfei:

Ren is a humble man with humble beginnings, he is a proud Chinese, a former [PLA] soldier, but unlike how the Western press would portray Ren, he is not a career military officer and was not a high-ranking "general" as some in the West have wrongly represented him. (Tao et al. 2016: xiv)

Qing Wang of Warwick University stresses the fact that "serving in the army was one way of getting out of poverty for people in the countryside [...]. His time in the army was a short one and he was not in any important position" (Lecher and Brandom 2019).

Ren had lost the "iron rice bowl" (*tiefanwan*), that is the benefits of a state job. In 1987, at the relatively ripe age of 44, he decided to "enter the sea" (*xiahai*) of private entrepreneurship. He swapped security for opportunity, as millions of others did, when the establishment of the SEZ attracted foreign investment and reformed property and land usage rights in China created incentives. He joined forces with five investors to raise US\$5,000 as start-up capital necessary to establish Huawei (Li 2019: 71). The company name means "China can achieve" (Li 2017: 31). Many new companies of that era chose similar patriotic names in the hope to deflect the lingering skepticism of die-hard left-wingers against private entrepreneurs in a time when the development track toward marketization was not yet consolidated.

Shenzhen offered rare opportunities for companies due to its business-friendly regulations unavailable in the rest of the country. Hundreds of companies were created in various industries, but most of the private companies, especially in the communication industry, did not survive for very long. Huawei began small, without “government or military assistance” (Fogden 2020) and stood little chance against the fierce competitive advantages of state-owned enterprises (SOE), such as Great Dragon, Datang, or ZTE, which enjoyed government funding, supporting policies, and vast amounts of talents (Tao et al. 2016: xii). In the early phase Huawei struggled to retain talent, with foreign companies and SOEs offering much better opportunities. Ren aimed to make people stay with promises of a great future, but some people left after only a few weeks (Zhang 2019). In spite of the odds stacked against him, Ren secured a success in the early 1990s when a Hong Kong company ordered program-controlled switches, which Huawei was able to deliver at a third of the price of foreign products (Sun and Quan 2009: 142).

Western depictions concentrate on facts such as the date of the company founding and breakthrough developments, but find the rags-to-riches story of Ren incredulous:

How could Ren, then in his 40s and possessing no intellectual property, have grown Huawei into the world’s biggest seller of telecommunications equipment and one of the largest makers of smartphones, with 188,000 employees in 170 countries? In fact, it’s entirely unbelievable, according to the U.S. government. Washington would have you believe Huawei’s official history is a sham—that Huawei is effectively a creation of the Chinese government and that its success is based on Ren’s close ties to intelligence units within the People’s Liberation Army. (Pearlstine et al. 2019)

In contrast to this, the topics of hardships in Ren’s youth, his loss of job security due to the downsizing of the military, and the constant danger of a private company’s demise against SOE competition are part and parcel of the Chinese depictions of him. These topics resonate very much in China, since most people have relatives who suffered in some form or another under the socialist experiments of the 1960–1970s or struggled when the basis of economic activity was overhauled in the 1980s and

1990s. The element that is especially important to private entrepreneurs is the fact that Ren's company survived in unfair competition with government pampered SOEs.

3.2 Early Success and Personal Costs

As mentioned above, Chinese reports on Ren Zhengfei give much attention to the family and biographical background. It comes as no surprise that the story of Huawei's success in the early 1990s is contrasted with stories of tragedy and private loss, both in his family and his health. Ren's marriage to Meng Jun, mother of Sabrina Meng, ended in divorce and he developed serious health issues due to constant overwork (Pham 2019). Ren is said to have had a very close relationship with his mother, Cheng Yuanzhao, with her being the most profound influence on him (Tao et al. 2016: 188). A story of personal sacrifice for her son is included in the biographies and reiterated in the articles:

Before the college entrance examination, Ren Zhengfei was studying at home, often being dizzy from hunger, but there was only rice bran and vegetables available. After his mother heard of this, she gave him an extra rice ball every day so that he was able to study at ease, and [he] knew very well that this was all food saved from his parents' mouth. (*Huashang Taolie* 2018)

The articles analyzed mention that in the early phase of the Huawei, Ren could not afford to assist his parents financially. Huawei's success later enabled Ren to support them but had little time for them. In 2001, while accompanying Vice President Hu Jintao on a visit to Iran, Ren's mother had a car accident. Ren had difficulties to travel back to Kunming, and only made it to the hospital after she succumbed to her injuries (*Huashang Taolie* 2018).

This tragic story connects to a central element in the Chinese family-oriented value system, which is "filial piety" (*xiao*). Failure to take care of one's parents is considered a serious matter. In the personal account "My mother, my father" (Li 2017: 181–195), Ren expressed his remorse and

concluded with an apology: “The only people I have been indebted to are my parents. I didn’t take care of them when they were in a bad situation nor when I was in a good situation” (Li 2017: 195). As a result, Ren is reported to encourage new employees to forward their first month’s pay to their parents (Sun and Quan 2009), a fact lauded in BCEF comments as an example of filial piety (Li 2019: 72).

This self-critical publication was circulated at Huawei internally and is now quoted in biographies and the articles I analyze, sharing not just a personal account but also aiding the media where a human dimension to Ren was deemed necessary. The narrative evoked sympathy in the WeChat groups culminating in praising remarks:

Since ancient times, heroes have suffered all kinds of hardship, but good-for-nothing dandies never did. Director Ren has always been an outstanding representative of us Confucian businessmen. He is leading Huawei’s people to a paradise. What can we do for them now? (BCEF 30.05.2019)

In this comment, we can see not only sympathy for Ren Zhengfei but also the acknowledgement of a shared identity as Confucian entrepreneurs, and a direct emphasis of his “Chineseness.”

3.3 Acquiring Talent and External Expertise

While some Western observers—as shown above—doubt the explanations that Huawei offers for its success in its first two decades, they do agree with Chinese accounts, that the company seized rural markets the competition dismissed, “often delivering phone lines to villages for the first time” giving the company a basis to eventually penetrate urban markets (Pearlstone et al. 2019; Handelsblatt 2007).

In the Chinese accounts, Ren’s focus on acquiring talent by attracting the brightest people is a major element for explaining Huawei’s success. Recruitment strategies included dispatching technical staff to attend government workshops in order to recruit students in the shared dorms, having Huawei employees recommend friends from their networks or organizing career fairs at leading universities. These strategies proved to

be successful, since by 1998 the Ministry of Education recognized that Huawei had a monopoly on talent (Li 2017: 91–93).

Huawei was eager to acquire external expertise. In 1997, Ren hired a group of management professors from Beijing to draft the “Huawei Basic Law.” Although he frequently clashed with experts, Ren would always “absorb [their] ideas into his own thinking” (Zhang 2019). Here Western accounts agree: Huawei worked relentlessly at acquiring, copying, and incorporating know-how from competitors (Ning 2009: 88) and the company used the consultancy services of over 30 companies worldwide, spending up to RMB 200 billion a year in fees and royalties. But it was “no theft, everything was legal” (Hirn 2018: 87).

Both in Chinese and Western accounts, Huawei’s generous pay scheme and the opportunity to share in the company’s success are mentioned as a factor for attracting employees. Ren showed appreciation for hard work and dedication. In a speech, he reportedly said:

For compensation and benefit, the company will consistently lean on excellent staff and give a reasonable return to dedicated workers [...] We should discover people like Lei Feng⁵ and treat them well, to create a corporate culture where those like [him] won’t get the short end of the stick. (Li 2017: 88)

Both Chinese and Western accounts make mention of a unique ownership structure of the company giving loyal Huawei employees attractive annual dividend payments (Pawar 2018; Sun and Quan 2009; Li 2019: 71). But some Western observers question the claim of true employee ownership:

Employees of companies in the Huawei group [since a 2005 restructuring] do not own actual stock [...] Instead, they possess, via contract, a kind of virtual stock that allows them a share in the profits. But this virtual stock is a contract right, not a property right; it gives the holder no voting power [..., it] cannot be transferred, and is cancelled when the employee leaves the firm [...] It is purely a profit-sharing incentive scheme. (Balding and Clarke 2019: 5)

Some Western detractors criticize this structure as being only intended to mask the ultimate control by the state (Pearlstine et al. 2019). Already in 2012, the US House Intelligence Committee concluded that Huawei and ZTE “cannot be ruled out to be free of foreign state influence” (Jiang et al. 2016: 34–35).

3.4 Trouble Back Home and Competition Abroad

In the narrative of difficulties in Chinese articles on Ren Zhengfei, one story stands out that Western observers mostly do not mention. In a “Julius Cesar and Brutus”-type story, Ren grooms a young talent as potential successor only to be disappointed. Li Yinan, an engineering graduate, was a factor behind Huawei’s 50-fold market revenue increase during Li’s tenure as head of the R&D department (Sun 2018). Li left the company with Ren’s blessing and created “Harbor Networks” (*Gangwan Wangluo*). His excellent understanding of Huawei’s advantages and disadvantages gave him an edge in the competition (*Huashang Taolüe* 2018). During this period, Harbor Networks was a threat to Huawei and Li was accused as a defector for having “mined” Huawei’s skilled people and ideas (Sun 2017).

While some Chinese observers take Ren’s side in the conflict (*Huashang Taolüe* 2018), others are more sympathetic to Li (Sun 2017). The story of betrayal which we find in Chinese accounts is another building block in the narrative of Ren as an “underdog” who endures unfair fighting conditions. *Huashang Taolüe* 2018 features an artist’s rendering of Ren’s bruised and bleeding face, reminding us of a “Rocky Balboa”-like character.

In the 2000s, Huawei came into the focus of its international competitors. Cisco claimed that Huawei had infringed its intellectual property rights, demanding acknowledgement of the infringement, compensation, and a sales stop in the United States. Both US and Chinese media portrayed Huawei as acting out of a guilty conscience when Huawei agreed to the third demand. In early 2003, the US company filed a patent lawsuit against Huawei leading to a loss of customers in European and American markets. But this trial ultimately was a pyrrhic victory, since it

led to Cisco losing goodwill in the Chinese market (*Huashang Taolüe* 2018; Ning 2009: 88–89).

Several topics that appeal to the business community in China stand out: Ren Zhengfei is depicted as someone who had to endure betrayal by a close ally and had to survive a “David vs. Goliath” fight against a Western competitor. Western public opinion tends to see that “backward China cannot manufacture high-tech products” and that success in doing so could only be achieved by “imitation, plagiarism, and infringement” (*Huashang Taolüe* 2018).

3.5 “Wolf Culture” and Ren’s Management Style

Western and Chinese accounts on Ren look at the corporate culture of Huawei. Chinese accounts do not omit that Huawei had several internal problems. In late 2001, Ren addressed the managers of Huawei in his speech “Winter of Huawei” to admit past mistakes in decision-making. Ren’s military background had influenced the company and to a highly centralized mode of operation (Sun and Quan 2009). Middle- and the high-level managers all reported to Ren so that decisions were not possible without his prior approval and no-one “dared to come forward” with criticism. A system of “decentralization, advancement, and checks and balances” was seen necessary (Zhang 2019). In 2004, a collective decision-making body in the form of “Executive Management Team” (EMT) and a system of chairmen rotating every six months was introduced (Tao et al. 2016: 344–348; Li 2019: 72). In 2011, Ren revealed the logic for this step:

As rotating CEOs, they no longer are only concerned with the internal construction and operation. At the same time, they must also look to the outside, look at the world, and adapt themselves to the operation of the external environment to avoid disadvantages. (Ren 2012)

The motive of facing one’s own mistakes and engaging in self-criticism is very important for the construction of a positive persona in Chinese public perception. A former senior manager at Huawei explains that this

collective leadership mechanism had ended patterns of confusion. The company introduced a “wolf culture” with three core elements: (1) a keen sense of smell for business opportunities; (2) an aggressive nature that never gives up even with temporary setbacks; and (3) the combat spirit of a team (Zhang 2009).

Huawei’s “wolf culture” is often criticized as “coldblooded,” but supporters claim that “the outside world has misunderstood” the company (Zhang 2009). Ren’s leadership philosophy was called a “doctrine of openness, compromise, and grayness” (Tao et al. 2016: 137, 155), as “the art of tolerance and compromise,” as well as pragmatic and “down to earth” (Zhang 2019). A Western account respects Ren’s ability to “inspire his people with the spirit of unwavering dedication and commitment” (Tao et al. 2016: xiv).

Nonetheless, Western accounts see Huawei’s “wolf culture” epitomized in a rigorous process of performance reviews with a fixed number of low performers being fired each year (Zhong 2018). But they also have to concede that “it is Mr. Ren’s larger-than-life personality that brought the company so far.” Ren is described as a man who has limited interest in the details of technology but “leading a workforce of more than 180,000 with iron authority” (Hille 2018). Management professor Wang Yukun, author of the 2019 biography, sees that Ren Zhengfei and the “wolf culture” are often misunderstood:

Many people see Ren as aggressive, stubbornly disruptive and obsessed with surpassing others. What they don’t know is that these extremes are only on the surface. What’s truly going on in him is one act of regression after another, balancing and then rebalancing again. (Tao et al. 2016: 136)

Wang Yukun has followed Ren’s work closely for two decades (Wang 2019), while Western reports usually are based on a small number of interviews (Pearlstone et al. 2019; Zhong 2018; Handelsblatt 2007; Fahrion 2019).

3.6 Veneration of Ren Zhengfei as a Hero

Since the 1990s, there is a surge in public interest in political figures of China's past in the form of management guides and popular history soap operas (Cf. Niedenführ 2008). A treatise compared Ren Zhengfei's way of managing a company with the Qing-time scholar-general Zeng Guofan (Gong 2019), which was shared widely in the WeChat groups.⁶

The highest realm of management is “ruling by acting without acting” (*wuwei*). Huawei's example tells us that human inaction must be based on “systems that have action.” An effective system design must be based on the grasp of human “self-interest” and nature. This is also the embodiment of the new Confucian entrepreneurs. (BCEF 16.07.19)

The fact that Ren here is compared to a heroic figure of the past is a very Chinese form of adulation. The statement interpreted Ren's way of building his company with a Daoist principle and imbued Ren with leadership qualities from a traditional Chinese point of view.

Within the WeChat groups mentioned above, current developments involving Huawei and Ren Zhengfei are being closely followed. Relevant news-articles and opinion-editorials, in particular those critical of the US actions against the tech company are immediately shared. In May 2019, when a US law became effective, which banned domestic companies from cooperating with Huawei, restricting the sales of US components for use in Huawei products, and excluding Huawei to offer access to Google apps on their mobile phones, the relevant news (Zhuo 2019) were heavily discussed and led to numerous comments of support:

Hit Trump, Liberate China! (BCEF 28.05.2019)

The true identity of Ren Zhengfei of Huawei is now completely exposed, and the United States is afraid! (AEM 29.05.2019)

Patriotism has to start with me, defeat the United States, and resolutely resist American goods. (BCEF 29.05.2019)

Huawei is denied a right to speak, the United States is in fact a hegemony! (BCEF 29.05.2019)

Huawei is impossible to seal off, the United States is completely dumb-founded! (PBD 12.06.2019)

The Most Tragic Long March in the History of Science and Technology—Huawei is the pride of the people! (PBD 12.06.2019)

This nationalist fervor that is often enough triggered by passionate comments in government mouth-pieces such as the *Global Times* escalated into heated debates about the need for Chinese patriots to start boycotting US goods in order to retaliate the punitive policies against the Chinese tech champion. Ren Zhengfei was quick to reject such calls for boycotts:

At present, there are two kinds of emotions towards Huawei. One is strong patriotism in support of Huawei, and the other is a patriotic notion that Huawei has kidnapped the whole society. [...] We stop them from shouting slogans blindly and don't incite national sentiment. (Zhuo 2019)

The discussions led to divisions in the WeChat groups with some members mentioning the common sense that for entrepreneurs active in the international economy boycotts are to be rejected, since they ultimately hurt the free trade that entrepreneurs rely upon. They agree with Ren's call for a level head:

Ren Zhengfei said "Don't stir up nationalist sentiment, buying a Huawei mobile phone does not mean loving Huawei, or loving China ...!" (BCEF 29.05.2019)

That exactly is Ren Zhengfei's mind [ThumbsUp] (BCEF 29.05.2019)

The more nationalistic faction in the WeChat groups disregard this reasoning since ultimately the higher value of national pride and the interest of the Chinese people should hold sway. One comment stood out with references to past incidents of Chinese cowardice in the face of unfair treatment by Western forces:

Even the [backers of US goods] have to admit, Ren and Huawei are working hard for China in the United States. But we still buy American goods, this way the good conscience of Chinese people is being thrown to the

dogs. [...] Now many people have become like the Chinese people that Lu Xun wrote about who watch their compatriots being mutilated, [...] such un-awakened Chinese people! [...] “All men share a common responsibility for the fate of their country.”⁷ (BCEF 29.05.2019)

While the articles I analyzed tend to show great support for Huawei when the company started to get attacked by the United States, the entrepreneurs in the WeChat groups react with a range of comments, from calls for moderation and dialogue to bellicose appeals to compatriots to counter-attack the United States.

3.7 New Transparency of Huawei

In September 2018, Ren gave a speech where he explained his thinking in the current crisis between China and the United States:

First, we must solve our problems encountered in the West. First, we must fully understand the values of the West and stand on their side to understand them. The main outline of public relations is to solve the problem of communication with the West. [...] In these [past] years, we have adopted the Chinese way of thinking to understand the world’s pattern and to speculate on the West’s intentions. To have a full understanding of the world, we must understand the West within the concepts of the West. (Wang 2019: 194)

The Meng incident triggered the PR strategists of Huawei to aim for a new transparency, which is widely supported by Chinese experts. They prefer Ren’s “modesty, self-criticism and openness” to the “wolf culture” and think that the tech giant needs such a culture in a new era.⁸ Others see this as a third stage of Huawei’s corporate culture development, with wolf culture and the introduction of advanced concepts of Western companies as the first two stages (Zhang 2019).

The entrepreneur community in the WeChat groups follow the competitive position of Huawei closely and news of success is circulated and commented within these groups, such as domestically produced hardware replacing US imports or the Harmony OS replacing the Android

OS. We find morale boosting appeals, such as the “US sanctions will have an impact, but not much” or “[Huawei] is full of energy and confidence” (HB 30.05.2019). While patriotic statements such as these are absent from Western reports, we instead find references to a consensus on the need to maintain a global liberal market order.

4 Conclusion

In domestic discourse, Ren Zhengfei is often depicted as a successful model entrepreneur and as an embodiment of positive Chinese values such as filial piety, diligence, and resilience in overcoming hardships. He is portrayed as a moral person and reasonable entrepreneur, whose unprecedented success puts him unfairly into the crosshairs of America’s anger. This to some extent stands in contrast with more skeptical reports on Ren Zhengfei in Western media.

In China, the predominantly positive image of both Ren and Huawei is linked with patriotic feelings and official encouragement, which boost Huawei’s domestic sales at the time when oversea shares are flat. Chinese entrepreneurs sympathize with Ren Zhengfei not only because of patriotism but also the immediate fear that their individual business success in global markets can make them a target in the ongoing economic Cold War between the world’s two biggest economies.

Some Western detractors argue that only through government support in the form of subsidies or easy access to credit through the state-controlled banking system was Huawei able to become the leading tech company it is today. Such a single factor explanation is unlikely. In my view, Ren Zhengfei found a successful formula for building a competitive and innovative company in the 1980s and 1990s without relying on government support. The strategy to gain market share from the periphery to the center proved successful both at home—against domestic SOE, and eventually abroad—against global MNCs (Wang and Wang 2011: 111). In the 2000s, once Huawei secured a domestic leadership position in market share, key technologies, and access to tech talent, as well as a moderate influence in overseas markets, did the party-state take Huawei seriously.

But being crowned a national champion and given a key role in the industrial plans of the government translated not only into increased government support but also intervention. Since bureaucrats are not known to excel at creating innovative companies or anticipating customer needs, Ren Zhengfei and Huawei needed to retain enough leeway to continue to be successful. Ren accepted relinquishing full control in the 2004 introduction of a system of rotating CEOs. Being turned into a mere agent of the state would conflict with the personae described in numerous descriptions of him. But “several new PRC laws create challenges for understanding whether companies are independent from the state” and these “legal regimes give the government the ability to request assistance from private companies without recourse for companies to push back” (Riikonen 2019: 125). This means that the party-state has means to co-opt private companies—this is not different for Huawei. But Ren retains a veto right in the governing body of Huawei trust (Balding and Clarke 2019), which still gives him considerable influence.

We cannot with certainty preclude that in recent years the party-state might have increased its pressure on Huawei to conform with Beijing’s strategic goals. But this is a far cry from accusations of Ren Zhengfei being a state agent. In my opinion, the principle of Western law systems, that an accused is innocent until proven guilty should not be discarded, neither for Ren Zhengfei as an individual nor Huawei as a company. The West risks losing a core value of its own if it gives in to prejudices and fear, instead of passing judgment on the basis of proven facts.

In September 2019, Huawei made a peace offering, which proposes to sell off its 5G intellectual property to a US competitor (*Economist* 2019). In November, Ren offered a written guarantee to Berlin that he will never allow backdoor access to any government (Fahrion 2019).

The question is, will any of these signals be enough for the US or Western partners in an atmosphere of increasing mutual distrust? For the world economy, the question remains if Huawei is merely a test case for a global “decoupling” of China and the West.

Notes

1. These are among the most influential news portals in China reaching a wide audience. [Sina.com](#) and its microblogging platform *Sina Weibo* has 500 million users (Baidu “Sina”). Its competitor [Sohu.com](#) is first and foremost a search engine but also offers a news portal (Baidu “Sohu”). [Huxiu.com](#) is a younger network that caters to an audience interested in technology, business, and lifestyle topics (Baidu “Huxiu”).
2. Cheungkung Graduate School of Business (CKGSB) is one of the most successful private business schools in China, initiated by the Hong Kong tycoon Li Ka-shing.
3. The Institute of Advanced Humanistic Studies (IAHS) at Peking University is headed by Prof. Tu Weiming, who is recognized as one of the leading scholars of Confucianism in the world.
4. The BoAo Forum for Asia (BFA) is an annual forum for state and business leaders from Asia organized by China since 2002. The “Davos of China” is held on Hainan Island and attended alternately by the president and prime minister of China.
5. Lei Feng was a model soldier and worker, who died at a young age from work exhaustion in a people’s commune in the early 1960s and has been used as a model for others to emulate by the party-state ever since.
6. Zeng Guofan is a revered nineteenth-century scholar-general who was instrumental in defeating the Taiping-Rebellion in Eastern China as well as supporting the adoption of Western weaponry.
7. This quote is a patriotic formula of Ming scholar Gu Yanwu, who influenced Liang Qichao, Lu Xun, and other patriotic intellectuals in the early twentieth century.
8. The term “new era” (*xin shidai*) here not only refers to a new era for Huawei but is a political term referring to current development phase under the leadership of Xi Jinping.

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16

Final Reflections: Connectivity, Innovation, Transformation, and Global Challenges

Christoph Lattemann, Ilan Alon, and Wenxian Zhang

This book highlights the emergence of Huawei in 22 countries around the world on 5 continents (Part I). It sheds light on Huawei's entry strategies, and the roles of business and innovation networks, of the developmental level of network infrastructure and consumer markets in the host countries, and the impact of home- and host-country government relationship for Huawei's success. As described in volume I of *Huawei Goes*

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Global: Made in China for the World (Zhang et al. 2020), Huawei's close ties to the Chinese government quite often turn into disadvantages in developed countries. Part II of this book discusses the question of how Huawei can overcome these home-country disadvantages. The described coping mechanisms might be taken as best practice examples for other companies with similar challenges.

1 Huawei's Trajectory in the World

Huawei's success story is quite amazing. The company started in 1987 in Shenzhen, as a rural sales agent for Hong Kong-based phone and cable network businesses. Heavy investments in research and development (R&D) over time led to superior solutions for high-tech telecommunication infrastructure products (e.g., 5G and cloud solutions) as well as customer-oriented innovations (smartphones). Despite Huawei's competitive disadvantages in its globalization process, such as being a late-comer in the market, lack of technological leadership, and liability of foreignness with a negative country of origin image, within 30 years, Huawei managed to become a leading global provider of information and communications technology (ICT) infrastructure and smart devices. Huawei serves three different sectors in the telecommunication industry: infrastructure and solutions for telecom operators, such as Telfort B.V., Vodafone, British Telecom; equipment and infrastructure for businesses, such as cloud solutions; and consumer electronics, such as smartphones. Today, Huawei is one of the most important contributors to the 5G standards and patent development in the world (Buchholz 2020; IPlytics 2019).

With the beginning of the trade war between China and the U.S. in 2018, Huawei moved in the focus of a geopolitical power game. The U.S. accuses Huawei of espionage and intellectual property theft. Consequently, Huawei's global 5G expansion has been perceived as an economic, geopolitical, national security, and ideological threat to many

democratic countries and as a threat to the digital liberalism in general (Lattemann et al. 2020). Accordingly, legal claims to alleged security threats jeopardized the economic prospect of Huawei.

Countries and regions that have banned Huawei's products and infrastructure represent more than one-third of the world's GDP. As of December 2019, the U.S. (Zhang et al. 2020), Australia and New Zealand (Lin—Chap. 11), Taiwan, Japan and Vietnam (Al Haddad and Namingit—Chap. 9) have decided to ban Huawei's 5G technology. U.K.'s government opted for a more balanced approach, allowing Huawei to access to non-sensitive parts of its wireless network. The U.S., the U.K., Australia, and New Zealand are four members of the so-called Five Eyes network of English-speaking nations that share intelligence to make a call on Huawei. Canada, the fifth member of this network, is still undecided about Huawei's role in 5G infrastructure projects (Chapardar, Wei and Chamseddine—Chap. 6).

Despite this trade war, there are also countries that actively embrace Huawei's 4G and 5G network technologies and where Huawei develops the biggest markets share in the smartphones sector. We find this situation in most African countries, in Latin America (*e.g.* Mexico, Argentina and Brazil) (Carrillo and Micheli—Chap. 7), and in Southeast Asia (*e.g.* the Philippines, Thailand, Malaysia, and Brunei) (Al Haddid and Namingit—Chap. 9). European countries have still not decided yet and are currently working on the establishment of new standards for network governance in order to mitigate security risks. Some countries such as Denmark, Sweden, Czech Republic, Poland (Chaps. 4 and 5), and Belgium are on the fence to introduce bans. Lithuania is waiting for decisions to be made by NATO and EU, which probably will never come. Latvia, Slovakia, and Hungary (Szunomár, Karas and Oehler-Sincai—Chap. 5) decided to continue to work with Huawei. Countries such as Germany (Glowik—Chap. 2), France, Italy, and Russia (Tsukanova—Chap. 3) have signed or are in the process of signing contracts with Huawei but are also increasing security measures to safeguard against backdoors into communication channels.

2 Reasons for Huawei's Success and Failure in Countries Around the World

The country cases featured in this book show that Huawei is an excellent example to apply latest International Business theories on firm-specific and home- and host-country-specific advantages and disadvantages (Rugman and Li 2007). Huawei's firm-specific advantages can be perfectly described by Collinson and Rugman's (2008) classification, grouped in assets (*e.g.* patents), capabilities (*e.g.* R&D expertise), connection (*e.g.* strategic alliances), and reputation (*e.g.* trust).

On the one hand, Huawei is ahead over its competitors in developing the three market segments the company is currently engaging. The firm-specific advantages of Huawei are its R&D capabilities, its customer-centered approach, and its ability to develop partnership ecosystems, in particular long-term partnerships through joint innovation centers. In the provision of infrastructure for telecommunication companies, the firm is the leading force in 5G technology. In providing products and services for businesses, Huawei is following a very effective customer-centered strategy and initiated ecosystems that allow collaboration with customers for the development of innovative solutions. In the smartphone sector, Huawei offers devices at unbeatable price-value ratios.

Further, Huawei gains from home-country advantages, such as financial support from the Chinese government, and the strong links between China and other countries, in particular in connection with the Belt and Road Initiative (BRI) (Zhang et al. 2018).

On the other hand, Huawei suffers severely from home-country disadvantages, such as mistrust of the Chinese government, animosity against China and Chinese products, and the undissolved question of ownership structure of Chinese privately owned company (*i.e.* influence of Chinese government and the role of work councils) that maneuvers Huawei into the center of trade and political disputes. Now, the pivotal challenge for Huawei is to find a way to manage or balance these firm-specific advantages with home- and host-country disadvantages. The country cases (Part I) and Part II in this book depict some feasible strategies, which might also be applied by other MNEs with similar challenges.

In many *European countries* (Chaps. 2, 3, 4, and 5), Huawei has successfully developed fine-grained relationship grids and networks involving private firms, governmental authorities, policy makers, research institutions and universities. This strategy shows how Huawei successfully employ its assets (*i.e.* knowledge and patents) and capabilities in long-term strategic alliances, and to build up trust in foreign markets. Nevertheless, there is no single strategy which fits all European markets.

Russia, for example, has a quite backward telecommunication infrastructure and Huawei can easily upgrade its existing and affordable ICT solutions (4–5G infrastructure) for infrastructure projects. The China–U.S. trade plays no role. Huawei thrives in this environment by applying a customer/need-driven approach instead of a technology-driven (high-tech) approach (Tsukanova—Chap. 3). The *German* and the *Polish* markets are in need for the latest high-tech 5G technology but at the same time are concerned about security (Chaps. 2, 4, and 5). The development of long-term partnerships and joint innovation centers (in Germany) and the close collaboration with research institutions such as the Poznan Supercomputing and Network Center (in Poland) helped Huawei to keep its feet in these markets. The difference between Germany and Poland lies in the political power game. The pressure to implement a state-of-the-art 5G infrastructure seems to be more important in Germany than in Poland. The Polish strategy is strictly lined-up with that of the U.S., although Poland is located strategically on the BRI route, which makes Chinese political leaders and investors perceive Poland as an important geopolitical player (Szunomár, Karas and Oehler-Sincai—Chap. 5).

In *Hungary*, Huawei runs the biggest production base outside China that serves as a production and logistics center for 55 countries, which is an important economic factor for Hungary. Huawei introduced the 3G and 4G infrastructure for Vodafone and a LTE network for the state-owned telecom company. As a result of this long-term and tied relationship and the influence of the Chinese government, the Hungarian government and Huawei signed a strategic partnership agreement in Beijing. Huawei successfully followed a similar business-government strategy in Romania (Chap. 5).

The business-government interactions for Huawei in *Canada* is very complex. Canada's close proximity and line-up with the U.S. pushed Canada for drastic measures against Huawei by imprisoning Huawei's CFO, Meng Wanzhou. But instead of fighting against Canada, Huawei intensified its collaboration with Canadian institutions in December 2019 by moving its U.S. research centers to Canada. This clever move from Huawei kept an open door to at least one member of the Five Eye network (Chapardar, Wei and Chamseddine—Chap. 6).

Huawei's strategy in *Mexico* is to build up trust with clients through building a close proximity to them through innovation (R&D center), close commitments to customers, and a decent price-performance ratio for smartphones. The Mexican R&D center was built to establish a bridge between China and Mexico in order for Huawei to understand the particularities of the Mexican market and their customers, and to excel in customization and product delivery. Carrillo and Micheli (Chap. 7) emphasize that Huawei's three pillars in Mexico are "*embed, connect to Mexico, and for Mexico,*" which create a tight ecosystem. Geopolitics are no issue in Mexico and in most other Latin American countries.

In most *African* countries, Huawei's success builds on home-country support (financially and politically) as well on the Huawei's customer-centric approach. Huawei has a long tradition in Africa and opened its first office in 1998. Huawei built at least 50% of Africa's 3G and 4G networks. The majority of these investments came with tied-aid conditions that requires African governments to work with Chinese companies and that created long-term financial dependencies.

The *Ghanaian* fiber-optic backbone project is a good example for the dependencies between African countries and China. The project costs are envisioned to be around US\$180 million. To finance this project, Chinas Exim Bank granted this investment sum through two concessionary loans that creates a deep dependency between China and Ghana (Djan and Owusu-Ansah—Chap. 8). However, Huawei is not only gaining from home-governmental support in Ghana but also from its customer-centered strategy. Ghana Telecom companies are still using 3G (as of Spring 2020) and trying to upgrade to 4G. Hence, to many Ghanaians 5G is of no use. Therefore, Huawei offers its 3G and 4G phones, which are becoming outdated in developed markets, at prices that are 5% to

15% lower than similar phones from competitors. Understanding of the local population's need for mobile phones (price sensitivity in combination demand for gadgets) and rapid responsiveness to satisfy the needs are the main elements of the company's success in Africa. Further, the 3G and 4G product lines are not be affected by the U.S. sanctions.

In *Southeast Asia* (Chap. 9), Huawei is pursuing a similar network strategy as in Europe. This includes long-term relationships with local telecom operators (Malaysia), partnerships with governments (Laos), joint innovation centers (Philippines and Indonesia), and Open Labs for proof-of-concept testing and ICT training centers (Thailand and Singapore). Geopolitical and territorial disputes with China is only affecting Huawei's business in Vietnam, where its products are banned.

Huawei is not a major player in *India*, neither in the infrastructure nor in the smartphone market (Mukherjee—Chap. 10). Huawei's future success in 5G infrastructure projects in India is heavily depending on the Sino-India political relationship. The Sino-India relationship also affects the current and most likely future consumer market, as antipathy related to previous or ongoing political, military, economic, and diplomatic events (animosity) plays a major role in consumer's willingness to pay. Huawei has to find a way to circumnavigate these political and consumer-related cliffs.

3 Huawei's Coping Strategies

Part II of this book discusses the question of how Huawei can overcome the legitimation challenges stemming from the institutional distances between China and the respective host country. Li and Sun (Chap. 12) present solutions that are referring to stakeholder management. They discuss characteristics of stakeholders, the effects of engaging with governments and media, corporate philanthropy, and good corporate governance. Zhou and Sun (Chap. 13) emphasize organizational learning and the importance of ambidexterity capabilities to become agile and pursue alternative strategies at the same time. Yang and Kang (Chap. 14) raise the important aspect of framing and storytelling in media. This bridges to the last chapter (Chap. 15) of this book about the framing of the

global image of the CEO of Huawei, Ren Zhengfei, as an independent, successful model entrepreneur who embodied positive Chinese values such as filial piety, diligence, and resilience.

The entry strategies employed by Huawei and the suggested solutions for existing challenges described in this book may be used as managerial guidelines for MNEs that face similar situations. They can also be used as teaching case in International Business and International Management courses. Finally, yet importantly, the described country cases may contribute to theory building.

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