

DBA

Corporate social responsibility in the Chinese Pharmaceutical Industry

**---Exploring CSR Issues
Faced by Pharmaceutical Companies in China**

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DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed Min Tian..... (candidate)

Date 1/12/2021.....

STATEMENT 1

This thesis is the result of my own investigations, except where otherwise stated. Where correction services have been used the extent and nature of the correction is clearly marked in a footnote(s). Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

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STATEMENT 2

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A thesis submitted to the UWTSD in partial fulfillment of the requirements for the degree of
Doctorate of Business Administration

Declaration

I, Min Tian, declare that I am the sole author of this thesis; that I have conducted all the work of which this is a record, and that the finished work lies within the prescribed word limits. In all cases, where it is relevant, material from the work of others has been specifically acknowledged at the appropriate point in the text by references.

This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma.

Signed:.....*MIN TIAN*.....

Date:.....20/11/2021.....

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Abstract

This research investigates the Corporate Social Responsibility (CSR) practices of pharmaceutical companies in China and provides a comprehensive view of the landscape of CSR status quo of Chinese pharmaceutical industry. The thesis focuses on exploring CSR issues faced by pharmaceutical companies in China, and provides a critical analysis of the underlying causes and effects of these issues in the industry. The study is based on the CCG model and takes into account seven different aspects of CSR concerns related to pharmaceutical industry in the Chinese unique business context. This offers a holistic scene of CSR actual status and situation in China. Through qualitative approach in the study is based on multiple methods of collecting data from primary and secondary sources; Primary data gathering was through in-depth interviews whilst secondary data were through document analysis and review of literature.

In this thesis, semi-structured interviews with open-ended questions were used as primary data. The respondents were managers and executives who have abundant working experience related CSR field, and worked in leading Chinese domestic pharmaceutical companies or in subsidiaries of top global pharmaceutical MNCs operating in China. 18 semi-structured in-depth interviews were conducted. Secondary data came from analyzing internet websites, public sources and existing literature.

The research analyses the seven main aspects of CSR issues faced by pharmaceutical companies in China and indicates that careful attention and urgent improvement is needed for the quality of medicines, R&D innovative products, environmental pollution, advertising and promotion of medicines, commercial bribery and corruption, pricing and access to medicines, waste of medical resources.

On contribution to practice, the thesis analyzes and discusses better perception and implementation of CSR within the pharmaceutical industry in China, mainly to help managers and executives in pharmaceutical companies and policy-makers in government to gain a comprehensive understanding and holistic insight about the status quos of CSR in the Chinese pharmaceutical industry. Specifically, the thesis presents the prominent and unsolved CSR issues from seven aspects faced by pharmaceutical companies in Chinese unique business surrounding; based on CCG model, this study dissects the root causes of these CSR issues in pharmaceutical industry.

From academic contribution perspectives, the thesis has found that there is a scarcity of studies about CSR of pharmaceutical industry in China. This research contributes to CSR literature by studying ill-defined, complex, controversial CSR issues faced pharmaceutical companies in Chinese business context, which explicitly maps CSR landscape in the Chinese pharmaceutical industry to fill up the gaps. Furthermore, this study generates a CCG model as a lens to interpret and analyze CSR issues faced by pharmaceutical companies operating in China. The research findings and outcomes will significantly help pharmaceutical companies to navigate the complicated Chinese business labyrinth with CSR consideration and stakeholder engagement taking into account of the political, cultural, technological and economic context in China.

Keywords: CSR; Pharmaceutical industry; China; Stakeholder theory; CCG; Healthcare system; Medical services.

List of Abbreviations

3P: People/Profit/Planet
AMR: Antimicrobial Resistance
APIs: Active Pharmaceutical Ingredients
CCG: Consumers/Companies/Government
CFDA: China Food and Drug Administration
CP: Chinese Pharmacopoeia
CRO: Contract Research Organization
CSR: Corporate Social Responsibility
DCP: Drug Centralized Procurement
DTCA: Direct-to-Consumer Advertising
DTPP: Direct-to-Physician Promotion
EC: Emerging Contaminant
EC: European Commission
EDL: Essential Drug List
EU: European Union
FDI: Foreign Direct Investment
GMP: Good Manufacturing Practice
GPOs: Group purchasing Organizations
GSK: Glaxosmithkline
HR: Human Resources
HRM: Human Resources Management
IPR: Intellectual Property Rights
MNCs: Multinational Corporations
NEMP: National Essential Medicine Program
NEMS: National Essential Medicine System
NGO: Non-Governmental Organization
NPO: Non-profit Organization
OECD: Organization for Economic Cooperation and Development
OTCA: Over-the-counter Advertisement
PhRMA: Pharmaceutical Research and Manufacturers of America
R&D: Research and Development
RQ: Research Question
SDP: Separation of Dispensing from Prescribing Drugs
SHA: Stakeholder Approach
SMEs: Small and Medium Enterprises
SOP: Society/Organization/People
TBL: Triple Bottom Line
TCM: Traditional Chinese Medicine
TRIPS: Trade-Related Aspects of Intellectual Property Rights
U.S.: the United State
UHC: Universal Health Coverage
WB: World Bank
WBCSD: World Business Council for Sustainable Development
WEO: World Economic Outlook
WHO: World Health Organization
WTO: World Trade Organization

Contents

Declaration	ii
Acknowledgement.....	iii
Abstract.....	iv
List of Abbreviations.....	v
List of Tables.....	9
List of Figures	10
1 Introduction	11
1.1 Background.....	11
1.2 Research objectives and research questions	13
1.3 Research significance.....	16
1.4 Research method	18
1.5 Outline structure of the thesis	20
2 Literature review.....	22
2.1 Conceptual framework.....	22
2.1.1 Corporate Social Responsibility (CSR)	22
2.1.2 Stakeholder Approach (SHA)	26
2.1.3 Triple Bottom Line (TBL)	29
2.2 Theoretical framework	32
2.2.1 CCG model based on Carroll's pyramid of CSR	32
2.2.2 CCG model based on Stakeholder Approach.....	33
2.2.3 CCG model based on Triple Bottom Line.....	34
2.2.4 CCG model for CSR	35
2.3 The core/main stakeholders in pharmaceutical industry	38
2.4 The CSR challenges in Chinese pharmaceutical industry	43
2.5 The CSR issues/concerns in Chinese pharmaceutical industry.....	49
2.6 Summary.....	57
3 Methodology	58
3.1 Research philosophy.....	58
3.2 Research design.....	61
3.3 Data collection method	63
3.3.1 In-depth interviews as the primary data collection method.....	64
3.3.2 Document analysis as the secondary data collection method	66
3.4 Data collection procedure.....	67
3.4.1 Sample strategy.....	67

3.4.2 Sample selection	68
3.4.3 Recruiting interviewees	71
3.4.4 Conducting interviews.....	72
3.5 Data Analysis	74
3.5.1 Data analysis approach.....	74
3.5.2 Data analysis process/procedure	76
3.5.3 Data storage management	78
3.6 Research Quality/ standards.....	79
3.6.1 Reliability	79
3.6.2 Validity.....	79
3.6.3 Limitations	81
3.6.4 Ethical considerations.....	82
3.7 Summary.....	84
4 Data Analysis.....	86
4.1 Quality and safety of medicines	87
4.2 Advertising and promotion of medicines	93
4.3 Environmental pollution	99
4.4 Commercial corruption and bribery.....	105
4.5 Pricing and access to medicines	111
4.6 Waste of medical resources.....	118
4.7 R&D and patented medicines	125
4.8 Summary.....	133
5 Discussion	136
5.1 Quality and safety of medicines	137
5.2 Advertising and promotion of medicines.....	141
5.3 Environmental pollution	145
5.4 Commercial corruption and bribery.....	149
5.5 Pricing and access to medicines.....	153
5.6 Waste of medical resources.....	159
5.7 R&D and patented products.....	163
5.8 Summary.....	168
6 Conclusion	170
6.1 Address the research questions.....	170
6.1.1 The CSR issues faced by pharmaceutical companies in China	170
6.1.2 The causes of CSR issues in Chinese pharmaceutical industry	172
6.2 Theoretical/academic implications of this study.....	176

6.3 Practical/managerial implications of this study	178
6.4 Limitation of this study	179
6.5 Suggestions for further research.....	180
References	181
Appendix 1: Participant Information Sheet.....	230
Appendix 2: Participant Consent Form	231
Appendix 3: The profiles of these selected companies in this research.....	232
Appendix 4: Interview questions/Questions frame for the interviews.....	234
Appendix 5: CCG analysis for CSR issues regarding quality and safety of medicines (produced by the author).....	237
Appendix 6: CCG analysis for CSR issues regarding advertising and promotion of medicines (produced by the author).....	238
Appendix 7: CCG analysis for CSR issues regarding environmental pollution (produced by the author).....	239
Appendix 8: CCG analysis for CSR issues regarding commercial corruption and bribery (produced by the author).....	240
Appendix 9: CCG analysis for CSR issues regarding pricing and access to medicines (produced by the author).....	241
Appendix 10: CCG analysis for CSR issues regarding waste of medical resources (produced by the author).....	242
Appendix 11: CCG analysis for CSR issues regarding D&R and patented products (produced by the author).....	243

List of Tables

Table 2.1: The five dimensions of CSR (Dahlsrud, 2008).....	P25
Table 3.1: The ownership of the selected pharmaceutical companies in China.....	P68
Table 3.2: List of interviewees for this study and their associated background.....	P69
Table 4.1: Summary CSR issues related to quality of medicines.....	P91
Table 4.2: Summary causes of CSR issues regarding quality of medicines.....	P92
Table 4.3: Summary CSR issues related to advertising and promotion of medicines.....	P97
Table 4.4: Summary causes of CSR issues regarding advertising and promotion.....	P98
Table 4.5: Summary CSR issues related to environmental pollution.....	P103
Table 4.6: Summary causes of CSR issues regarding environmental pollution.....	P104
Table 4.7: Summary CSR issues related to commercial corruption and bribery.....	P109
Table 4.8: Summary causes of CSR issues regarding commercial bribery.....	P110
Table 4.9: Summary CSR issues related to pricing and access to medicines.....	P116
Table 4.10: Summary causes of CSR issues regarding pricing and access to medicines.....	P117
Table 4.11: Summary CSR issues related to waste of medical resources.....	P123
Table 4.12: Summary causes of CSR issues regarding waste of medical resources.....	P124
Table 4.13: Summary CSR issues related to R&D and patented medicines.....	P131
Table 4.14: Summary causes of CSR issues regarding R&D and patented medicines.....	P132

List of Figures

Figure 1.1: Outline structure of the thesis.....	P21
Figure 2.1: Carroll's Pyramid of Corporate Social Responsibility.....	P24
Figure 2.2: Core stakeholders and general stakeholders (produced by the author).....	P27
Figure 2.3: A company's stakeholders (produced by the author).....	P27
Figure 2.4: Internal and external stakeholders (marketing91.com).....	P28
Figure 2.5: Triple Bottom Line (Elkington, 1998).....	P30
Figure 2.6: The Three Spheres of Sustainability (University of Michigan, 2002).....	P31
Figure 2.7: Carroll's CSR Pyramid (Carroll, 1991).....	P32
Figure 2.8: The three domains for stakeholders (Zheng, 2006).....	P33
Figure 2.9: The 'Three Pillars' 3P model (Elkington, 2004).....	P34
Figure 2.10: The three-domain model of CSR (Schwartz and Carroll, 2003).....	P36
Figure 2.11: Three aspects of CSR (Huang, 2013).....	P37
Figure 2.12: The core stakeholders in the Chinese pharmaceutical industry.....	P39
Figure 2.13 China's Real GDP Growth 2007-2016 and Projections through 2022.....	P44
Figure 5.1: China is the world's second largest pharmaceutical market.....	P136
Figure 5.2: Pharmaceutical supply chain in China (Yu et al., 2010)	P150
Figure 5.3: Pharmaceutical innovation system (Ni et al., 2017).....	P167

1 Introduction

This chapter is the introduction and outline of this study. Firstly, the research background is displayed for introducing the research topic, follow by presenting the research purpose and objective, along with research questions. Secondly, the selected research design and method are proposed. Finally, yet importantly, the chapter concludes with a brief description about outline structure of the thesis.

1.1 Background

As of recent years, the awareness of corporate social responsibility has been greatly enhanced all over the world (Carroll and Shabana, 2010). There has been a great deal of research about CSR in academic circles (Graafland & Zhang, 2014), from different perspectives to explain and develop the theory of CSR. These prominent efforts and contributions include the Stakeholder Theory (Freeman, 1984; Crane, 2016), CSR pyramid theory (Carroll, 1991), Triple Bottom Line Approach (Elkington, 1998), and Three-domain CSR model (Schwartz and Carrol, 2003), etc. However, CSR is still a controversial topic, due to the different business environment has different expectations and standards on CSR (Tian & Slocum, 2016).

In China, CSR has developed and gained in popularity rapidly in recent years (Wei, 2015). However, CSR is still in the stage of enlightenment in China, it is a relatively new concept in the embryonic stage compared with CSR in the western countries (Yang & Rivers 2009). Due to the lack of a mature institutional framework and effective regulatory system for CSR (Guan & Noronha, 2013; Yin & Jamali, 2016), some loopholes of the existing legislation and regulation resulted in irresponsible behaviors and activities spreading (Hoskisson et al., 2000). Pharmaceutical companies in China are facing unprecedented competitions and challenges.

The previous study showed that the pharmaceutical industry in China has had some outstanding CSR issues (Wang, Xu & Zheng 2011), including overpricing drugs (Hu & Mossialos, 2016), immoral marketing; luring and bribing doctors (Schipani, 2016), rampant corruption and unsatisfactory product quality and security, and so on (lu et al., 2016). These business practices against CSR are directly influence on human health, life safety and social stability (Nussbaum, 2009).

Furthermore, The CSR of pharmaceutical industry has its uniqueness, which is always experiencing greater social risks and ethic consideration related to CSR during developing, testing, producing and selling (O’Riordan & Fairbrass, 2014) using and disposal of medicines. Compared with many other industries, the products of pharmaceutical industry directly affect the human health, well-being and even make the difference life and death of people, which tightly involve in various CSR with ethical issues (Smith, 2008).

The definition of stakeholders is any individuals or organizations can affect or be affected by corporate operations and activities (Freeman, 1994). Nowadays, more and more companies not only focus on making profits, but also pursue the positive influences on society and natural environment (Hussain et al., 2018), to meet the needs and interests from different stakeholders.

However, CSR is not merely to cooperate with the various stakeholders and meet their different needs, but also to propel them to take part in a joint effort to create valuable products and services (Boatright, 2006). Meanwhile, stakeholder groups have the function of public scrutiny to urge or pressure on companies to take their responsibilities (Lu & Abeysekera, 2014), from three sustainable aspects namely economic, social and environmental simultaneously, which is consistent with the famous Triple Bottom Line Approach (McWilliams et al., 2016).

CSR with consideration of stakeholders is not opposite to corporate earnings and economic benefits, but is advantageous for profit-seeking and financial wellbeing (Carroll and Shabana, 2010), for corporate survival and sustainable development in the fierce marketing competition (Narbel & Muff, 2017). The win-win perspective to CSR practices is perceived as a vehicle, which aimed at satisfying stakeholders' demands, meanwhile, allowing the company to pursue its interests. Nowadays, the pharmaceutical industry is facing huge challenges (Smith, 2008). Pharmaceutical companies need to establish and maintaining harmony and cohesive relationships with various groups of stakeholders with mutual benefits in socially responsible ways (Murphy & Poist, 2002).

China is in impressive economic growth in recent decades, which has become the world's second largest pharmaceutical market following the U.S. (Zhao, 2012). Some CSR issues emerged in the Chinese pharmaceutical industry have caused serious consequences including overpricing drugs, immoral marketing and promotion; luring and bribing doctors, and unsatisfactory product quality and safety, irrational use of drugs, waste of medical resources, environmental pollution, illegal advertising, commercial bribery and corruption, etc. Due to immature regulation in the Chinese pharmaceutical industry and perverse market incentives in healthcare system, etc., these business behaviors against CSR brought negative influence on human health, life safety and social stability. For example, poisonous infant milk powder tainted by melamine from the Sanlu Group (Xiu & Klein, 2010), sewage discharge from Harbin Pharma, and caused serious pollution of the river with harmfully hazardous by Jilin Petrochemical (Minghui, 2018), which are all severely against CSR (Lin, 2010).

Some the branches of renowned western pharmaceutical MNCs operating in China also have the trend that conducted their subpar CSR performance, lowering their own ethical and legal standards when operating and doing business in China (Tang et al., 2014). For example, there are considerable some scandals from western top MNCs, systematically bribing doctors to promote medicine sales in China such as GlaxoSmithKline (GSK) and Sanofi, which all are famous leading multinational pharmaceutical giants from western countries (Hawkes, 2013; BBC, 2014).

These existing CSR issues caused huge negative impacts in pharmaceutical and healthcare industry (Frederiksborg & Fort, 2014). These business behaviors and activities that violated CSR not only damage the physical and economic interests of consumers, undermining fair market competition, but also bring reputational and financial losses to the corporations, make them facing severe punishment and legal sanctions of law with huge fines and financial compensation to the victims (Yiyun, 2017). It reflects that more attention and urgent improvement are needed; effective strategies and measures need to be formulated and implemented, in order to solve or alleviate these CSR problems (Chunyu & Yinghuan, 2017).

There is a dearth on academic study about CSR for the Chinese pharmaceutical industry. Few studies have been carried out by focusing on CSR issues or concerns faced by pharmaceutical companies in China. Additionally, currently there is still no the existing theoretical framework to fit pharmaceutical companies to understand and undertake CSR in a business context with Chinese characteristics (Tilt, 2016), where accompanied with the rapid economic and technological development, unique cultural tradition, immature legislation and regulation, and so on (Savarese, 2017).

This thesis will contribute to fill these gaps, for explicitly and elaborately mapping the previously under-researched CSR practices of pharmaceutical industry in the unique China-targeted setting. Based on the CCG model originally analytical generated from this thesis, the study offers a new angle to ascertain and discuss the prominent CSR issues faced by pharmaceutical companies operating in Chinese business context, in order to obtain a holistic and comprehensive landscape about CSR status quo of the Chinese pharmaceutical industry.

Moreover, based on qualitative research methodology with multiple data collection including the primary data sources from in-depth interviews and the secondary data sources from document content analysis of existing literature, this research intend to probe the root causes that triggered these CSR issues faced by the pharmaceutical industry in China. It intended to find the moving direction to improve understanding and implementing of CSR in the complicated Chinese business environment with consideration of stakeholder engagement, to pave the way to solve these main CSR issues and enhance CSR performance of pharmaceutical companies in China.

1.2 Research objectives and research questions

Noteworthy, the concerning of CSR is more and more compelling and prevalent in Chinese pharmaceutical industry, due to the unique characteristics of the industry. Pharmaceuticals make a significant contribution to improving health and well-being of people; enhance the quality of living for human beings (Kumar & Sundarraj, 2018). Government believed that pharmaceutical industry exert significantly huge effect on the national healthcare system (Mossialos et al., 2016), to facilitate wider access to essential medicines and healthcare services for general public. Therefore, CSR with stakeholder consideration is particularly great significance in pharmaceutical industry.

Specifically, China has been the biggest economy in developing countries, which become a valuable research target for exploring CSR with huge challenges (Wolf & Thiel, 2017). Although CSR concerns are growing in China, however, there is still urgent need of enhance CSR practices, especially in the pharmaceutical industry. Chinese business context with some characteristics influenced on CSR, including inadequate regulation and legislation, immature policies (Jamali, Lund-Thomsen & Jeppesen, 2015), facing the deep impacts from socio-cultural and historical tradition (Dhanesh, 2015), insufficient technology and lacking of independent innovation capacity (Wang, 2015), and so forth. Therefore, China with economic takeoff (Taylor, 2016) faced huge CSR challenges in pharmaceutical industry, which becomes a valuable research target setting to study CSR.

As of recent years, the awareness of CSR has a largely increased all over the world (Carroll and Shabana, 2010) where pharmaceutical companies are confronting more and more different needs and demands from various stakeholder groups, CSR has become a fast-growing part in business and academic circles, which gradually takes prominent core position with decisive and crucial influence in the company's strategic success and long-term sustainable development (Woo & Jin, 2016).

However, CSR is still a controversial topic, due to the different business environment with different expectations and requirements on CSR. Currently there is a dearth of academic studies carried out to highlight and dissect CSR issues of pharmaceutical companies in a business context with Chinese characteristics. There are many gaps and omissions leaving behind for lucubration and exploration of CSR in the Chinese pharmaceutical industry, which deserve more in-depth investigation and discussion in this research.

The purpose of this research is for gaining a comprehensive landscape of CSR status quo of pharmaceutical industry in China; and providing a profound insight and holistic understanding about CSR perception and implementation in pharmaceutical industry in China. It mainly emphasizes the critical analysis of CSR issues faced by pharmaceutical companies in the Chinese unique business context, and probes the underlying causes triggered these CSR issues in Chinese pharmaceutical industry.

In order to find the moving direction forward to eliminate or alleviate these main CSR issues, present a road map for navigating CSR in the complicated Chinese business labyrinth with consideration of stakeholder engagement, taking into account of the political, economic, cultural and technological contexts in Chinese business setting, for paving the way to enhance CSR practices and improve CSR performances in the Chinese pharmaceutical industry.

The objectives of this research are to:

- To ascertain and analyze the existing and prominent CSR issues faced by pharmaceutical companies operating in China.

The study focuses on the conspicuous CSR issues and concerns arisen in the Chinese pharmaceutical industry. Analyze the prominent and unsolved CSR issues faced by pharmaceutical companies operating in China; and present the negative consequences and adverse influences of these CSR issues. It emphasizes on the exploration and analysis of these outstanding CSR problems of pharmaceutical industry in China.

- To probe and dissect the root causes of these prominent CSR issues in the Chinese pharmaceutical industry.

The study identifies and dissects the actual and potential root reasons of these existing main CSR issues in the Chinese pharmaceutical industry, and provides a critical and holistic understanding and profound insight of the underlying causes and effects of CSR issues from seven different aspects related to pharmaceutical industry under a specific China-targeted context.

Accordingly, this study will try to answer the two research questions as follow:

(1) What are the CSR issues faced by pharmaceutical companies in China?

China's government has made great efforts in reforming healthcare system and reconstructing pharmaceutical policy to benefit the general public; but there are still some CSR issues left behind in Chinese pharmaceutical industry, which obviously caused a high degree of attention and in need of urgent improvement.

China's pharmaceutical industry characterized by immature regulation and perverse market incentives, faced some salient CSR issues including drug quality, access and high drug prices; irrational and improper medicine use, improper promotion and false advertisement, commercial bribery and corruption, and so on. There are the existing the outstanding and prominent issues related to understand and implement CSR in the Chinese pharmaceutical industry, which needs in-depth research.

This study intends to ascertain thoroughly these existing and unsolved CSR issues, provides a rounded analysis about these CSR concerns that have seen as extremely important but neglected or not received enough attention. It presents comprehensive road map for elaborately navigating CSR perception and implementation, in order to pave the way to work out solutions and action orientation for curbing or alleviating the prominent CSR issues to enhance CSR performance in Chinese pharmaceutical industry.

(2) What are the causes of CSR issues in the Chinese pharmaceutical industry?

It is necessary to understand the underlying causes for resolving and tackling these CSR issues. The study intends to provide a comprehensive perspective and holistic insight to understand and analyze the main root causes triggered these existing CSR issues of Chinese pharmaceutical industry. Chinese business context brought huge challenges for undertaking CSR, coming along with rapid economic development, insufficient R&D power, unique cultural tradition, changeable pharmaceutical policy and dramatically healthcare system reform, etc. These all have significant influence on CSR practices in the Chinese pharmaceutical industry.

It becomes urgently necessary to probe the underlying reasons that resulted in the outstanding CSR issues faced by pharmaceutical companies in China. Furthermore, through clarifying and dissect these root causes, to pave the way of moving forward to improve CSR in the Chinese pharmaceutical industry.

1.3 Research significance

Specifically, China has been the biggest economy in developing countries (Taylor, 2016), which become a valuable research target in terms of CSR. Nowadays, China has obtained rapid economic growth, which resulted in an impressive improvement in people's living standards, accompanied by the increasing demand for high-quality medicines and advanced healthcare services, China perceived as a huge potential pharmaceutical market (Yang, 2011). There is growing concern over CSR issues of Chinese pharmaceutical companies in recent years.

Moreover, CSR can be industry-specific, culture-dependent and stage-sensitive. It means the CSR issues and concerns are dissimilar for different industry; the CSR understanding is diverse under different cultural background in different countries; accordingly, need to figure out practical formulation and strategy to achieve CSR at different CSR develop stages under different business context. CSR in China is still in the beginning and initial stage (Gao, 2009) with huge challenges, and the special characteristics of pharmaceutical industry as capital-and-technology-intensive field, under the huge influences of China's unique business context with different cultural tradition and political regime, rapid economic and technological development, which forms the appealing research setting for CSR worthy of in-depth study.

The significant of this research from practice perspective

The thesis focuses on the highlight unsolved CSR issues arisen from the Chinese pharmaceutical industry, which is seen as important that but be neglected or not received enough concerns. Furthermore, explore the root causes of the main CSR issues, to pave the way to enhance CSR of pharmaceutical companies in China.

This research intends to provide comprehensive landscape about CSR in Chinese pharmaceutical industry, mainly to help the managers/executives and all concerned to gain a thorough understanding and holistic perspective about the status quos of CSR in Chinese pharmaceutical industry. In order to stimulate/arouse the relevant people and pharmaceutical companies in China to integrate CSR into their business strategies, embrace CSR and find moving direction for enhance CSR performance. It propels/impels pharmaceutical companies to recognize the necessity and urgency of enhance CSR and pave the way to work out viable solutions as well as devise practical and feasible CSR strategies to eliminate or mitigate CSR issues effectively.

Moreover, the thesis hopes to present CSR status quo of pharmaceutical industry in China to government officials, provide useful insights to policy makers and regulatory authorities, in order to call for more attention and practical actions from government intervention for enhance CSR performances in the Chinese pharmaceutical industry. The government employees and officers need to be fully aware of the unsolved and serious CSR issues faced by pharmaceutical companies, which calls for the urgent need for improvement. It is imperative to enhance CSR related laws and regulations, pave the way to tackle with the protruding CSR issues. Attaining these goals need essential prerequisites that is a clear understanding and deep insight on CSR issues and the underlying causes of these issues in the Chinese pharmaceutical industry, which precisely and exactly is studied and achieved by this thesis.

The significant of this research from academic perspective

The existing literature on CSR exploration for the Chinese pharmaceutical industry is especially scant; little research has conducted for CSR practices and performance of the pharmaceutical industry within a business context with Chinese characteristics. Thus, this thesis addresses the void and contributes to CSR literature by studying ill-defined, complex, controversial CSR faced by pharmaceutical companies in Chinese business context. Specifically, the thesis intended to ascertain the outstanding and prominent CSR issues from seven aspects faced by pharmaceutical companies; and dissects the root causes and underlying effects of these main CSR issues in Chinese unique business surrounding in exquisite detail, for presenting CSR actual situation explicitly and elaborately in the Chinese pharmaceutical industry to fill up the gaps.

Mostly importantly, this research has developed a new CCG model to explore CSR considered as the far-reaching theoretical implication of this research. Build the new CCG model as a new explanatory framework for CSR study is mainly academic and theoretical contribution to academic circle in this thesis. In terms of the CCG model generated from this thesis, this thesis makes significant progress to provide a novel visual angle on the exploration and development CSR, for navigating CSR practices of pharmaceutical companies in complicated Chinese business labyrinth. It hopes to pave the way to improve CSR performance in the Chinese pharmaceutical industry.

The CCG model built in this thesis is a new analytical framework designed as a lens to analyze and explore CSR from three aspects namely Companies (organization), Customers (consumers), Governmental (authoritative Institutions). It is considered the three ultimate beneficiaries for CSR implementation to better understanding and improve CSR in Chinese pharmaceutical industry in the thesis. The three dimensions with equal priority and mutual enhancement, to meet the customer needs, ensure the survival and development of corporations with economic interests, under appropriate government intervention to enhance social stability, safety and sustainability, along with maintaining environmental balance, for harmonious and common development from the three dimensions.

Furthermore, the CCG model not only suitable and applicable in the pharmaceutical industry, but also can be to extend widely to analyze CSR for other industry with the universal applicability and use in different contexts. The CCG model designed as a lens to interpret and analyze CSR, which can be extensive applicable used for any industry as a practical and feasible tool to dissect CSR practices and performances from the three dimensions, to evaluate and analyze if corporate business operations and activities are in compliance with CSR. In a word, the original contribution of this thesis is the CCG model that focused on consideration of the three CSR dimensions simultaneously, and widespread application as a CSR analytical framework applying to different industries under various business environments and backgrounds.

1.4 Research method

Qualitative approach is used in this study, which can flexibly capture meanings and understandings from social phenomena and human activities, based on viewpoints, opinions, attitudes, experiences and explanations from respondents (Bryman and Bell, 2015), and focus on details of issues, get research answers in depth to reveal the reality and essence of research topics (Borbasi and Jackson 2012). Qualitative analysis is non-number analytical method to get research results (Woods, 2005). It normally involves in a textual description instead of a numerical data analysis, it is very suitable for this study. Because the purpose of this study is to obtain a holistic understanding of CSR status quo for paving the way to explore and enhance CSR of pharmaceutical companies in China, which seek answers in terms of words rather than numbers, the qualitative approach is highly appropriate for this research.

The inductive approach means to provide valuable interpretations to the research subject, to explore and analyze phenomenon that is able to develop theories based on collecting data (Vaivio, 2007). Merriam and Tisdell (2016) depicted the inductive research approach is usually suitable for qualitative research, which generalize data analysis and extract useful information according to research objectives (Crowther and Lancaster, 2009). Therefore, the inductive approaches adopted in the research.

Interpretivist research is adopted in this research, aims to develop novel and deeply interpretations to understand of phenomena in a social world, which is very suitable for conducting research related to business and management when research setting is complex and unique (Saunders et al., 2016). Interpretivism is ideally appropriate of qualitative research which can flexibly capture meanings derived from participants' thoughts and viewpoints, so the gathering data is subjective and socially constructed. It is in line with this study related to humans and society, this study focuses on CSR issues faced by pharmaceutical companies in China to improve CSR performances. Therefore, this research followed the research philosophy of interpretivism.

This study adopted multiple data sources in order to obtain a broader data and attain more rich information, gathering data from the primary and secondary sources in this research, including in-depth interviews and document analysis.

Primary data gathering is through in-depth interviews. Interview is the typical method of data collection for qualitative research (Rowley, 2012), which is more deeply and flexibly to acquire more detailed data with the potential that could overcome the poor response rates of questionnaire investigation (Creswell, 2012). It is an adequate approach for data collection to conduct an in-depth study in a qualitative way, and focusing on a small sample size of respondents (Saunders et al., 2012), which meet the needs for study CSR issues in this research.

A semi-structured interview is normally with designed open-ended questions that are prepared ahead of time (Bryman & Bell, 2015). It could spontaneously adjust follow-up questions to obtain further and more specific information, based on interviewees' answers and responses (Barnham, 2015). It is more likely to gather data deeply and flexibly on participants' thoughts, attitudes, motives and actions (Kendall, 2008), to develop an in-depth understanding for research purpose with more details (Rowley, 2012). Therefore, it is a suitable method to explore CSR issues in this study.

The primary data collected in the research is through in-depth and semi-structured interviews based on 18 respondents of the six chosen pharmaceutical companies operating in China. For achieving the worthwhile research findings and results, it is necessary to select respondents who are highly suitable to provide the valuable insights and opinions for this thesis with the sample selection criteria (Saunders et al., 2012). Purposive sampling is a kind of non-probability technique that have specified requirements for choosing particular type of respondents with similar characteristics (Kumar, 2014), which is well suitable to collect required and valuable data of CSR.

There are some certain criteria for selecting the respondents of interviews in this research: (1) The respondents all worked for pharmaceutical companies operated in China, which proactively undertake CSR in business operations and activities; These chosen pharmaceutical companies all are top giant pharmaceutical companies and have leading positions in the Chinese pharmaceutical industry; (2) The respondents should have rich knowledge and experience of CSR area; they must be managers or executives who are working related to CSR, and be familiar with CSR practices and activities in pharmaceutical industry; (3) Finally, there are accesses to contact the managers or executives working for these chosen pharmaceutical companies, who agree to cooperate to answer questions during interviews.

The target population of this study will be professionals who have abundant working experience and extensive knowledge related CSR field. The chosen participants for interviews are all middle-level or senior managers and executives working for these chosen six leading companies. They not only have a broader and deeper vision to understand CSR, but also have more opportunities to participate in CSR activities and understand the importance of CSR related to the pharmaceutical industry. All 18 respondents are working separately for three different departments respectively HR department, R&D department and marketing department. These respondents from diverse departments make them have different viewpoints to perceive and interpret CSR practices, based on their standpoints and provide different perspectives of CSR understanding and implementation from their working positions.

Secondary data gathering is through document content analysis, which gathers data and information from the existing literature, to attain the widespread data related to research topic (Collis and Hussey, 2013). It aims to identify and clarify the essential facts of existing document contents, and considered as great complementation with interviews for triangulation purpose, in order to develop a depth and comprehensive understanding for achieving the research objectives (Saunders et al., 2012).

In this study, collecting secondary resource mainly come from internet webs, public sources and corporate documentation. Such as, literature books, articles, essays and journals, and corporate reports, etc. In this method, existing literature and data are fully used, which can beyond the constraints of time and space to get resources (Bryman & Bell, 2015). It helps researcher gathering the widespread and historical documental materials (Silverman, 2009) about CSR, which is used to collect data as complementation with interviews in the research, to ensure research findings more valid and reliable (Cooper & Schindler, 2006), and achieve significant and valuable research outcomes.

1.5 Outline structure of the thesis

This research will mainly include the following six chapters and structured as follows:

Chapter 1 provides an introduction about the whole thesis; focuses on the research purpose/objectives and aims with the research questions; addresses the background and context of the research, a brief description of research methods, and delivers the outline of structural framework for this thesis.

Chapter 2 provides the literature review, the associated CSR concepts and theories are presented and discussion, mainly including Carroll's CSR pyramid, stakeholder management, TBL theory, in order to support the new CCG model. According to the previous literature and the existing academic research about CSR, this chapter builds the new CCG model in this thesis, which is considered as original theoretical framework for laying the groundwork to analyze the research data to get meaningful research outcomes in this thesis.

Chapter 3 addressed the overall research methodology for conducting the research for fulfilling the research achievement. This chapter describes the research design, explains and justifies the research strategy and approach adopted in this research; and then, addresses the collecting and analyzing data methods/techniques tailored to undertake this study; after that, the procedures and processes of data gathering, analyzing, storage and management addressed in detail; at the end of this chapter, the validity and reliability, ethical considerations, and the limitations in this research explicitly are presented.

Chapter 4 this chapter presented and analyzed critically the research findings of collected data. Based on collected primary and secondary data, it focuses on the two research questions to ascertain and interpret the prominent CSR issues from seven aspects faced by pharmaceutical companies in China, and dissect about the root causes of them, which urgently need to improve for developing and enhancing CSR in the Chinese pharmaceutical industry.

Chapter 5 critically analyzes the outstanding CSR issues faced by pharmaceutical companies in China, and discuss root causes and underlying effects of these CSR issues based on CCG model from three dimensions. It is dedicated to explore CSR perception and implementation in the Chinese pharmaceutical industry according to the collected and analyzed data. Consequently, finding out the moving directions forward to alleviate these CSR issues, pave the way to develop and enhance CSR implementation and performance in the Chinese pharmaceutical industry.

Chapter 6 the final chapter, the conclusion of the thesis is presented with summaries about the research findings and results. The research outcomes are drawn from this study, in order to answer the two research questions for gaining research results. And then, this chapter also highlights both the theoretical and practical contributions of this thesis, and ends with the limitations of the study and suggestions for possible future further research. In addition to that, followings are with appendixes, references and bibliography, etc.

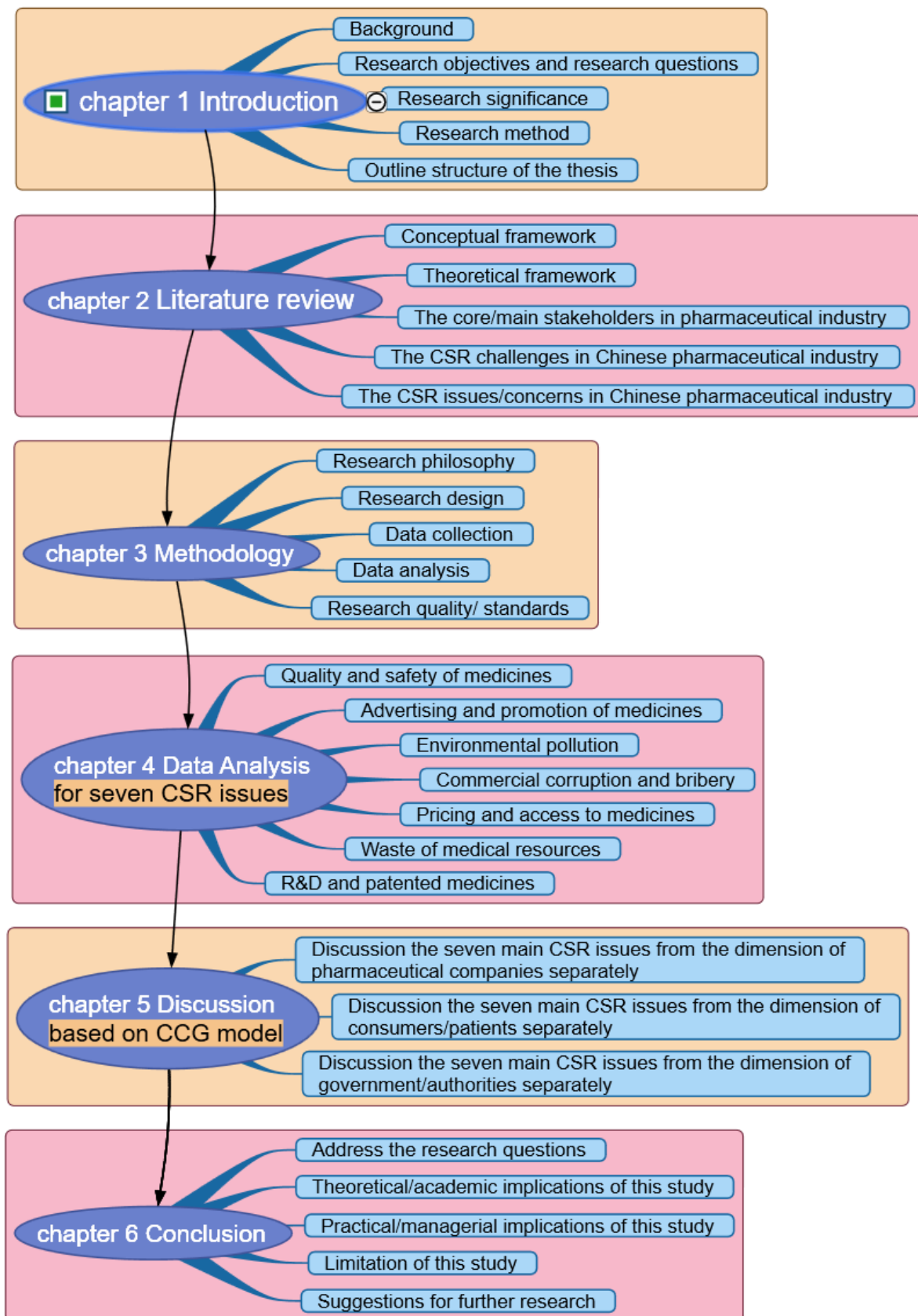


Figure 1.1: Outline structure of the thesis

2 Literature review

In this chapter, the concepts and theories that have direct relevance to this study will be presented and discussed based on previous literature and the existing academic research. The aim of this chapter is to provide with the conceptual and theoretical framework for the study in this thesis.

2.1 Conceptual framework

2.1.1 Corporate Social Responsibility (CSR)

The concerns of CSR have rapidly increased over the past several decades (Scholtens & Kang, 2013), but there still are many controversial opinions related to CSR effects on corporate business performance and sustainable development. The definition of CSR is not straightforward and constant. It carries different missions with different meanings and expectations (Freeman & Hasnaoui, 2011) to different people under different environments in different times (Frynas & Stephens, 2015). Therefore, the topic of CSR has no universal acceptable opinions (Tian & Slocum, 2016), it is not easy to form a standard uniform theory on CSR (Steurer et al., 2005).

CSR concepts are difficult to uniformly define and build clearly unified standards to be applied universally. However, its importance in business practices and decision-making can hardly be negated or ignored (Chapple & Moon, 2005). CSR represents a significant cornerstone of corporate management that is of great import to almost every aspect of business operation. The early contribution on CSR in the academic circles tended to depict the CSR from single theoretical perspectives (Freeman, 1984; Friedman, 1970); however, nowadays, more and more theories using multiple methods to explain CSR practices and activities (Mellahi et al., 2016). The evolution of CSR also makes its concept gradually more comprehensive and multi-dimensional.

The first one publicly to define CSR can be traced back to Howard R. Bowen (1953), written the influential book named *Social Responsibility of the Businessman* in 1950s, who addressed that CSR practices are regarded as the obligation of corporations, to take the necessary actions for respecting and supporting the value of society and environment. CSR was to increase market regulations in this conception. However, this concept just is the sprout of CSR, there is no specific explanation on how to achieve CSR under actual scenarios in business operations and activities. Moreover, it does not show the voluntary and initiative of CSR, nor does it explain the benefits from the corporate CSR implementation and performance.

This CSR concept coincides with the viewpoints of Fredrick (1960), he suggested corporations should ensure that the resources used by the corporate activities serve and benefit for the entire society as a whole, not just for the interests of the company or a portion of individuals, and living up to expectations of society and environment. Walton (1967) also focused on the importance of relationship between society and corporations when doing business. He further proposed CSR is related to voluntary action beyond compliance with legal, which improved Bowen's CSR concept to make it more detailed, specific and comprehensive.

More importance, this CSR conception of Bowen is a milestone for CSR, which opened up the door to concern and study on CSR in contemporary business. From then on, CSR began to evolve repeatedly, constantly develop into a multiple concept to explain and improve CSR understanding and application for corporate survival, development and success (Kristoffersen et al., 2005) in the long run. Nowadays, the concept of CSR has been growing rapidly with a broader and implementation-oriented perspective in order to achieve organizational goals (Rim, et al. 2016).

One of the most famous concepts about CSR made by Carroll (Crane, Matten, & Spence, 2013), who declared that business activities and practices should conform to a pyramid of corporate social responsibilities, which is from bottom to top following by economic, legal, ethical and philanthropic responsibility (Carroll, 1991).

Carroll (1991) addressed that organization itself as the economic unit of society. And Carroll (1999) mentioned that the economic responsibility as the first important base to maximize organization's profit for its shareholders; the second considered legal responsibility as an obligation to respect and obey the law and regulations (Quarshie et al. 2017). The third one is ethical responsibility that refers to doing what's right even if not required by law or other rules in order to minimize harm to stakeholders, which goes beyond mere compliance with the laws and regulations (Lee et al., 2019). In addition, the apex of the Carroll's Pyramid of CSR considered the philanthropic contribution is the last one that less important than the other three responsibilities.

The model of CSR pyramid emphasizes that companies not only has responsibility to create wealth for shareholders, but also have obligation to contribute for social and environmental beyond legal requirements. However, it is a limited perspective of explaining CSR that does not highlight the benefits of CSR; and the four dimensions sometimes overlapped each other. For example, the philanthropy could be a part of ethical responsibility. Philanthropic contributions maybe should be subsumed into the domain of ethical responsibility (Schwartz & Carroll, 2003), rather than distinctly separated from ethical perspective as described by Carroll's pyramid of CSR (Huang, 2013). Moreover, the obvious shortage is the hierarchical relationship of the pyramid CSR framework, which puts economic interests at the most important of the hierarchy, which might lead to misunderstanding about the priorities of these four domains.

Based on the pyramid of CSR, Schwartz and Carroll (2003) also proposed a similar three-domain model of CSR, which is consist of three parts, namely economic, legal and ethical responsibilities. In this model, philanthropic responsibility is incorporated into ethical responsibility (Kim et al., 2010). It improved the model of CSR pyramid, but still not put emphasis on the interactive relationship among the three domains, and the inherent tensions and tradeoffs among one another.

However, Carroll (1979) explained significantly CSR based on the four-domain frameworks; it was one distinct way to view CSR (Carroll, 1991) at that time. There is a graphic depiction of CSR in the form of a pyramid as following:



Source: This article was published in *Business Horizons* journal, July/August 1991 by Archie Carroll, "The Pyramid of Corporate Social Responsibility," 42. Copyright Elsevier & Kelley School of Business, Indiana University.

Figure 2.1: Carroll's Pyramid of Corporate Social Responsibility

The CSR concept from The World Business Council for Sustainable Development is doing business beyond pure economic pursuit for profit maximization, which is not only to boost corporate performance, but also consider how to enhance the quality of people life, improve human well-being as well as betterment of community and whole society (WBCSD, 2000). In this theory, CSR seen as the obligation, beyond profit as the only corporate goal, where companies need to improve social and environmental benefits during their business operation (Jamali & Neville 2011). It defined CSR in a more holistic way that companies fulfil obligations and take accountability, rights and privileges to achieve the overall CSR. But, the shortcoming of this CSR concept is that it is not mentioned the initiative and voluntary principle in CSR practices.

Another one of the most popular explanations about CSR provided from Commission of European Communities (2002) which is one of the most extensively and frequently used in academic world. It referred to corporations engage in business operations and activities with the perspective of integrating social and environmental concerns, considering of the interaction with stakeholders, and on the premise of voluntariness beyond legal compliance (Kitzmueller & Shimshack, 2012). The definition includes the three important aspects associated to CSR:

- (1) It integrates social and environmental concerns into business operations with economic performance for the pursuit of profit, which exactly is consistent with the triple bottom line (Elkington, 1998); it beyond only pursuing economic interests, to seek social and environmental benefits for human welfare, and achieve corporate long-term development goal from all kinds of aspects.
- (2) It introduces stakeholder engagement into the definition of CSR, and undertakes CSR with taking into account the interaction between the corporation and different stakeholders, for satisfying the different stakeholders' expectations (Freeman, 1984, Greenwood, 2007). One of the main merits in this definition is combining various stakeholder considerations into CSR. CSR implementation is to address various needs of stakeholders, to build the cooperative relationships with various stakeholders, which were well incorporated into the CSR definition.

- (3) It underlines voluntariness in the CSR implementation; CSR can be regarded as a voluntary business contribution to benefit social and environmental development, not only compulsory enforcement obeyed the regulations and laws (Woods and Jones, 1995).

In short, all these conceptions about CSR have corroborated that “CSR is a multidimensional and partially subjective concept” (Derwall et al., 2011). CSR is complex and multiplicity in the process of its understanding and application, which is an essentially contested concept (Chapple & Moon, 2005). Nevertheless, it cannot to be denied that CSR importance and play significant role in corporate operation. CSR gradually represents the keystone of contemporary corporate management that is of great crucial to almost every aspect of business activities and practices.

Taking into account all the elements of CSR, Alexander Dahlsrud (2008) identified five dimensions for the CSR definitions: the social dimension, the environmental dimension, the economic dimension, the stakeholder consideration dimension and the voluntariness dimension. It is almost impossible to develop and formulate any definition related to CSR without including one of the five dimensions. Therefore, this five-dimension conception framework of CSR is comparatively holistic and suitable for the research about CSR issues faced by pharmaceutical companies operating in China, which will be considered as one of essential conceptual framework used in this thesis.

Dimensions	The definition is coded to the dimension if it refers to	Example phrases
The environmental dimension	The natural environment	‘a cleaner environment’ ‘environmental stewardship’ ‘environmental concerns in business operations’
The social dimension	The relationship between business and society	‘contribute to a better society’ ‘integrate social concerns in their business operations’ ‘consider the full scope of their impact on communities’
The economic dimension	Socio-economic or financial aspects, including describing CSR in terms of a business operation	‘contribute to economic development’ ‘preserving the profitability’ ‘business operations’
The stakeholder dimension	Stakeholders or stakeholder groups	‘interaction with their stakeholders’ ‘how organizations interact with their employees, suppliers, customers and communities’ ‘treating the stakeholders of the firm’
The voluntariness dimension	Actions not prescribed by law	‘based on ethical values’ ‘beyond legal obligations’ ‘voluntary’

Table 2.1: The five dimensions of CSR (Dahlsrud, 2008)

2.1.2 Stakeholder Approach (SHA)

Stakeholder theory requires the corporations to concern the needs and interests of all individuals and organizations that affect or be affected by corporate operation and business activities (Freeman, 1984). The stakeholders of a corporation also interact with each other (Fernando, 2009). Stakeholder consideration puts more emphasis on all kinds of needs from different stakeholders, rather than on only economic benefits for shareholders.

The debatable and disputable CSR topic in the academic field faced the challenge related to shareholder and stakeholder theories. On the contrary to the stakeholder theory, the shareholder theory augured that companies only need to consider the interests of its owners and shareholders in the business operating and decision making; only it is important to achievement of the corporate business objectives for maximizing financial return (Friedman, 1970), so long as it obeys the rules and no breaking laws, without deception or fraud in breach of the fair and free marketing competition (Friedman, 2007). This conception is one-dimension consideration, not suitable for the contemporary business environment under global integration.

Stakeholders involve in corporate business operations, and influence on company's decision-making process, participate in the relevant information exchange or share, dialogue and cooperate with corporations (Mannetti, 2011). Corporations need to perceive and meet the reasonable needs of stakeholders (Darnall et al., 2010) as the essential missions to undertake CSR. It is important to guarantee and achieve the legitimate rights and interests of stakeholders (Sharma and Henriques, 2005). Stakeholders can also provide or control access to essential resource resources that are indispensable and necessary for ensuring the smooth running of companies. Attracting resources for corporate development needs to satisfy the reasonable and legal demands of different stakeholders (Branco & Rodrigues, 2006).

Freeman (2010) asserted that the companies conduct CSR practices is a synonym for taking corporate stakeholder responsibility. It is an essential to establish positive and harmony relationship and interaction with stakeholders (Becker et al., 2009), which is core for companies to implement CSR for achieving corporate long-term survival and development (Sardinha, Craveiro, & Milheiras, 2013). CSR is closely connected with the stakeholder theory, which means an organization or company is accountable for its influences on all relevant stakeholders (Sebhatu, 2010).

However, it is not realistic and viable for the companies to meet the all needs from their stakeholder groups at the same time, so the executives and managers have to make a decision to identify and select the core/main stakeholders who have the most important influence on corporations (Dobele et al., 2014). It is necessary to rank the stakeholders' priorities according to their importance and relevance to corporations, which influence on CSR practices and performance.

The principles of identifying core/main stakeholders to find out who and what really counts in corporate development, included three factors that play a prominent role in the decision of the stakeholder priority, namely according to power (influence power), legitimacy (legal requirement) and urgency (need urgency) (Mitchell et al., 1997).

According to different priorities, stakeholders divided into two categories, primary (core) and secondary (general) stakeholders (Clarkson, 1995). Primary (core) stakeholder groups have stronger and closer ties with a company. They have direct influence on corporate survival and development in a more intense way, without whose support a company would cease to exist (Bowie, 1988), which is essential and have a stake in the company survival and success (Bucholtz & Carroll, 2012). It includes customers, employees, supplier, investors and governments, and so on.

The secondary (general) stakeholder groups have indirect influence on a corporation. Several groups of stakeholders fall into the secondary stakeholder category, such as, media, competitors, trade associations and NPOs, and so on (Helmig et al., 2016).

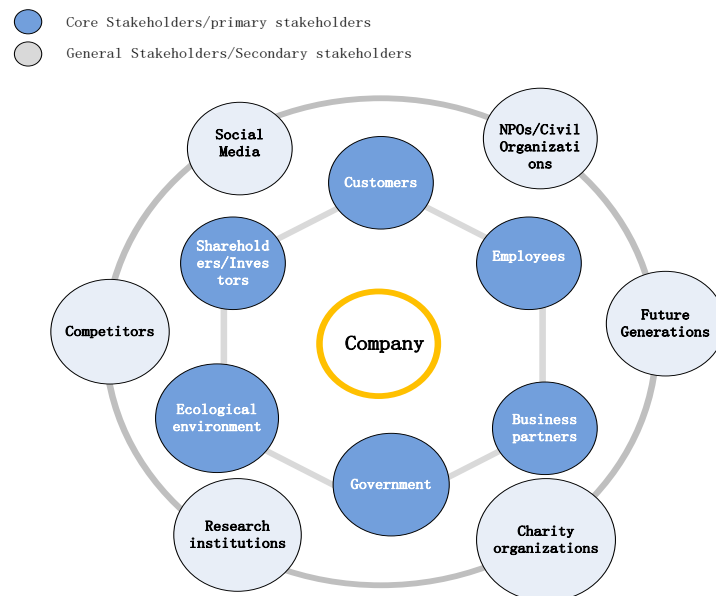


Figure 2.2: Core stakeholders and general stakeholders (produced by the author)

Werther and Chandler (2011) addressed an alternative classification for corporate stakeholders, which divided into four separate groups: organizational stakeholders are internal to the companies, which are closely related to economic stakeholders; both of them take part in the corporate business operation; societal stakeholders are external to a company (Chandler, 2019), which focused on the overall interests and benefits for whole society; in addition, the environmental stakeholders are relevant to the natural environment. The following figure represents the four partitions.

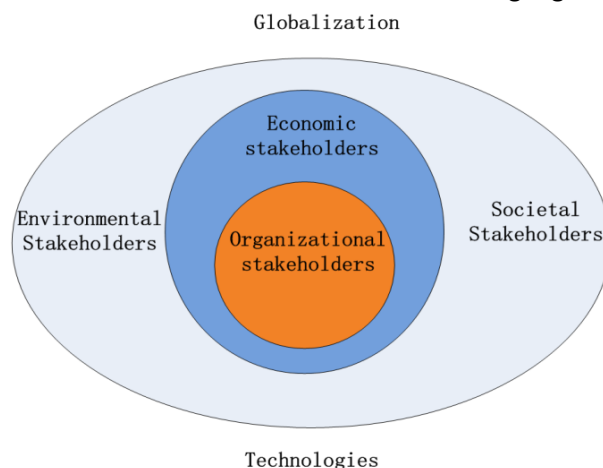


Figure 2.3: A company's stakeholders (produced by the author)

Another way is classifying Stakeholders into two categories, namely internal and external stakeholders (Amaral & Magalhães 2002). Internal stakeholders refer to the stakeholders within a corporation, including employees, managers and executives, etc. external stakeholders are the individuals or organizations outside a corporation, which affect or get affected by corporate activities and performances, which include customers, distributors, business partners, suppliers, and so on (Sones et al., 2009).

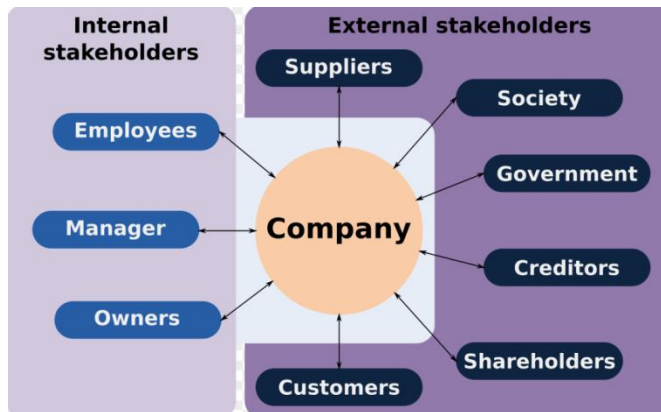


Figure 2.4: Internal and external stakeholders (marketing91.com)

On the one hand, the existing academic research has provided a wealth of proof that different stakeholders have different pressures on the corporate CSR activities and decisions (Thijssens et al., 2015). Stakeholder management has critical and decisive influence for CSR performances from all kinds of ways (Carroll and Shabana, 2010). Various stakeholders play the roles of supervision, which can exert pressures on the companies to adjust and regulate their business behaviors with consideration CSR.

On the other hand, the evolved CSR has become an indispensable tool to measure the effectiveness of stakeholder management (Frynas, 2009), in order to enhance social stability and environmental sustainability (Epstein & Buhovac, 2014), as well as facilitate for corporations to benefit themselves from all kinds of aspects (Carroll and Shabana, 2010). CSR is not opposite to corporate earnings economic benefits; they have reciprocal interaction with mutually promotion.

CSR with stakeholder consideration absolutely is not a simple altruism, but a kind of self-benefit choice for a company. That is to say, CSR not only promotes harmonious development of society and environment, but also brings corporate economic benefit (van Niekerk & Getz, 2019). Such as, less legal risks, reduce waste, and improve the productivity of employees, enhance brand reputation, improve work efficiency, and win customer loyalty, etc., which can indirectly translate into the long-term growth of financial benefits and business interests for corporations. This is a win-win situation.

Therefore, it is important to build a harmonious and mutually beneficial relationship (Lu & Abeysekera, 2014) and achieve common progress with different stakeholders, to generate synergy and value-added process for corporate long-term development. Stakeholders play monitoring roles with constraining power to press corporations to take their responsibility from three sustainable aspects namely economic, social and environmental simultaneously (Deegan et al., 2000), which is considered as the triple bottom line (Goel, 2010) that will be discussed and analysed as below.

2.1.3 Triple Bottom Line (TBL)

The view of CSR not only focused on the economic perspective, the theory of Triple Bottom Line (TBL) led to transferring CSR into a multi-dimensional comprehensive concept and involving in both social and environmental aspects (Mitchell et al., 2008). The TBL theory first introduced by Elkington (1998) who asserted that corporations create value in multiple aspects from economic, social, environmental perspectives. It refers to corporate gaining economic benefits and achieving corporate commercial success in an ethical way, with respecting and contributing to society and natural environment (Goel, 2010), establish corporate sustainable development and obtain more long-term benefit and growth for corporations (Sebhatu, 2010).

From environmental perspective, Savits and Weber (2013) addressed environmental performance includes promote resource utilization effectively and efficiently, as well as minimize environmental impacts and ecological footprints (Elkington, 1997), not to endanger surrounding natural environment and ecological system, and so on. It also includes all activities related to protect nature resources, reduction of the hazardous waste and emissions and the use of renewable energy and recycling resources, etc.

From social perspective, Schaltegger et al. (2006) asserted the main goal of social dimension is to avoid negative social impacts, as well as to increase positive social performances for enhancing human wellbeing and social prosperity during corporate operations. However, the social performance is difficult to evaluate in a measurable form and assess in absolute terms. It relates to better life quality and living conditions of human beings, improve the income structure and income level, strengthen public health and financial security, and so forth (Savits, 2013).

From economic perspective, it is about organizational or corporate business success for the growth of economy with profitability, and emphasizes economic value gained by a corporation (Alhaddi, 2015). Corporations have an obligation to maintain long-term financial solidity for corporate stable economic development (Savits and Weber, 2013). Schaltegger et al. (2006) considered the economic survival is the essential prerequisite for all other corporate activities, which also influence on corporate social and environmental performances.

TBL theory brought some new reflections and enlightenment about CSR:

- (1) Unity, namely economic responsibility, environmental responsibility, and social responsibility exist at the same time; they are not separated from each other, but considered as a whole, interact and influence one another. It is importance of value creating from the three dimensions simultaneously (Schaltegger et al., 2006).
- (2) Equality, the three aspects are equally important, cannot favor one more than another, or concern about this one and neglect another one. In contrast to the CSR pyramid by Carroll (1991), the TBL have not the hierarchical relationship for three dimensions, but rather it is about the balance and integration of the three aspects.
- (3) Win-win situation, social and environmental responsibilities is not companies' "economic sacrifice"; the responsibilities for society and environment do not mean that a company must abandon its traditional economic mission, which absolutely is not a simple altruism. It should be win-win situation where the three pillars should be mutually reinforcing and mutually beneficial relationship among one another.

In a word, TBL is based on complex interdependencies of social, environmental and economic pillars for the long-term and sustainable development (Rogers et al. 2012). It indicates that a company needs to perceive and take the social and environmental responsibilities, when pursuing for its economic goals and commercial successes.

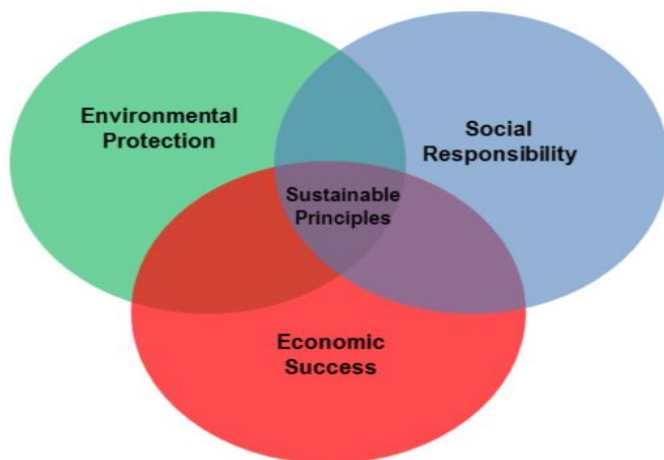


Figure 2.5: Triple Bottom Line (Elkington, 1998)

The three dimensions of TBL also commonly called 3P modal, which refer to as profit, planet and people (Slaper & Hall, 2011; Tullberg, 2012). It aims to combine the three pivotal aspects for mutual promotion and improvement together.

People refer to everyone inhabiting the earth; all human beings should be treated equally, no group being harmed, exploited, and unequal burden in the pursuit of economic development with commercial profits (Hitchcock, & Willard, 2011). It is the universal right of humankind to enjoy equal and inalienable rights for survival and development among different generations.

Planet refers to all the natural resources and ecological environment on the earth, which should not be adversely affected and destroyed by seeking for the economic growth and business pursuits (Carroll & Buchholtz, 2015). Additionally, reasonable utilization and management of nature resources are in order to achieve the balance and fair for generations to come (Sukoharsono, 2018).

Profit refers to the economic development and financial success, in order to long-term viability for corporations or organizations (Alhaddi, 2015). However, human economic and social development should not be at the cost of ecological balance, and cannot exceed the carrying capacity of natural ecosystem (Hall, 2011).

In a word, human beings engaging in business activities must learn to respect and protect nature resources and social environment in harmonious coexistence way (Alhaddi, 2015), which cannot compromise the opportunities of future persons to meet their own needs with similar levels of utility, wealth, and welfare (WCED 1987). This theory is particularly appropriate in the contemporary business environment, with a comprehensive consideration of the three aspects with the same priority. 3Ps is widely known in contribution to CSR development, which universally agreed on simultaneously benefit to people, planet and profit in a sustainable way.

The core meaning of CSR is to meet the three moral imperatives, namely satisfying human needs, ensuring social fairness and harmony, and respecting environmental limits (Holden et al., 2017); correspondingly for restricting human activities to peruse maximum economic benefits under a certain constraint (Hopwood et al., 2005). It suggested that corporations need using CSR initiatives and strategies to trade off and balance the incompatible needs from the three dimensions without being partial to any one of them (Miller et al. 2014).

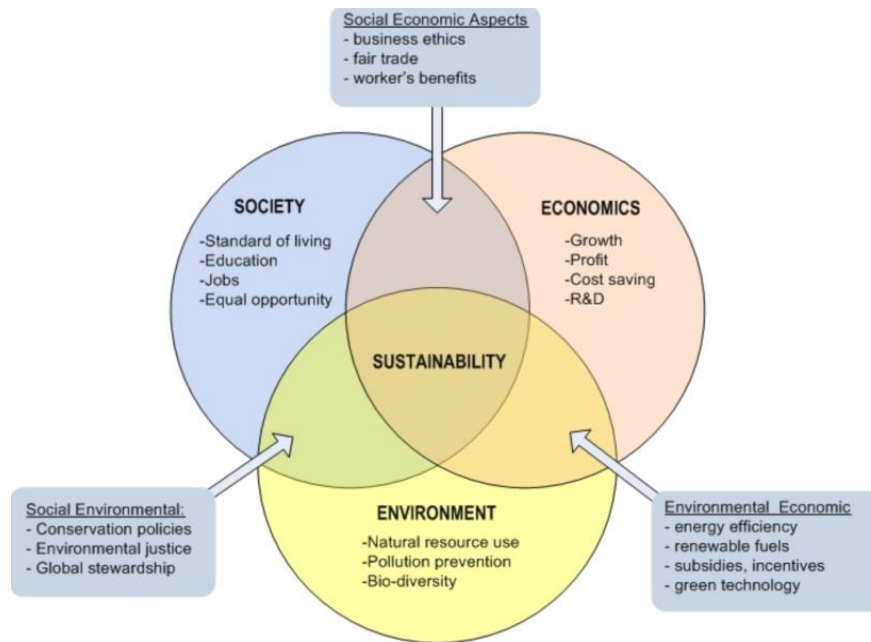


Figure 2.6: The Three Spheres of Sustainability (University of Michigan, 2002)

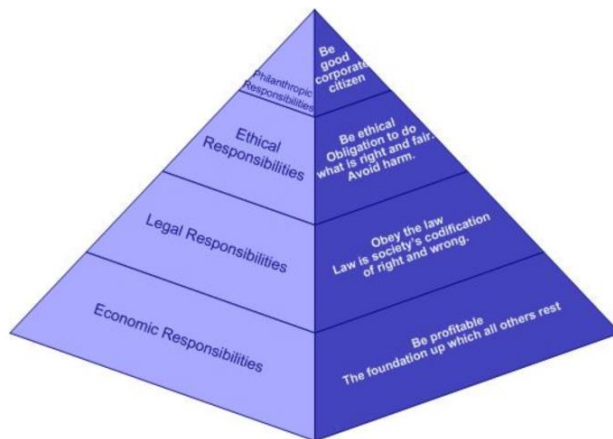
However, there are some limitations of the TBL theory. The measurement of TBL is complex and hazy (Sridhar & Jones, 2013). It is only a descriptive theoretical model of CSR without consideration from a more implementation-oriented perspective. It provides no method or formula in its framework for evaluating and assessing of TBL performance in practical business environment.

The TBL approach believed that the three responsibilities contradict each other and needed to tradeoff and balance for sustainable development (Hacking and Guthrie 2008), which tend to consider the three aspects are conflicting rather than potentially complementary each other. TBL pattern maybe ignore the profound interdependence of the three pillars with synergistic effects, which need to mutually support for making progress and advance together on all three fronts (Archel et al. 2008).

2.2 Theoretical framework

2.2.1 CCG model based on Carroll's pyramid of CSR

Pyramid of CSR has four types of responsibilities encompassed the economic, legal, ethical, and philanthropic aspects (Carroll 1979, 1991). The first is the most obvious and essential aspect is to be profitable for the economic responsibility. The second is to obey the laws for the legal responsibility. The third is the ethical responsibility with voluntary to do what is right without compelled to do so by legislation and regulation. The fourth is the philanthropic as discretionary responsibility (Carroll, 2016).



Carroll's CSR Pyramid

Figure 2.7: Carroll's CSR Pyramid (Carroll, 1991)

This thesis develops a novel synthesis for CSR, which generates the CCG theory partly based on Carroll's pyramid of CSR. CCG model is to discuss CSR from three dimensions: Company, Consumer and Government.

The dimension of company/organization is relevant to economic responsibility. For the company, it is inevitable to consider the economic benefits and its own survival and development (Wagner-Tsukamoto, 2019). If there is not successful in the economic sphere, any other corporate responsibilities that need financial supports would become moot (Carroll, 2016) as an empty talk.

The dimension of consumers/customer is relevant to ethical responsibility. The degree of achieving CSR involved in how much customer's expectation could be realized about products and services. And the development of corporate ethical responsibility should focus on the prime consideration (Baden, 2016) of meeting consumer requirements and satisfaction and enhancing customer satisfaction.

The dimension of government and authority is relevant to legal responsibility. The legal responsibility is for the social stability and the public safety. Government and authority should serve the whole country and the people, to formulate effective laws, to regulate social and commercial activities, and ensure the overall interests of the nation and the people, and the fair and reasonable allocation of overall resources. A companies should abide by all relevant laws (Jutterström & Norber, 2013), and be amenable to legal and regulatory requirements (Jamali & Mirshak, 2007).

2.2.2 CCG model based on Stakeholder Approach

In 1984, the initial academic term of stakeholder has introduced into management theory by Freeman (Freeman, 1984). From then on, it developed and evolved into one of all-inclusive managerial concepts (Morsing and Schultz, 2006). As mentioned earlier, stakeholders divided into internal and external stakeholders. Companies are expected to care about all kinds of stakeholders' interests (Jamali, 2008), to address their concerns and demands (Harrison et al., 2019). Furthermore, Zheng (2006) declared three-domain stakeholders to undertake CSR activities, including internal stakeholders (Internal Parties), external stakeholders (External Partners), and public stakeholders (Public Entities) (Yiyun, 2017). It is considered as a sound theoretical basis for the original CCG model generated in this thesis.

The dimension of company/organization is related to internal stakeholders (Internal Parties), encompassing shareholders, managers, and employees, etc. All internal stakeholders play a vital role around the company's goals and benefits (Radzi et al., 2018), focused on company's survival and development. Internal stakeholders are internal to a company and serve the interests of a company (Farooq et al., 2017).

The dimension of consumers/customers is related to external stakeholders (External Partners), which are external to a company (Nguyen et al., 2019). This group is to participate and assist in corporate operation to meet the demands and expectations of customers, for achieving the transaction and delivery of merchandise and service, generating value-added creation (Freeman et al., 2018). The external stakeholders cooperate with the company focused on the realization of customers' needs, which all directly contribute to the value-creating processes of the company (Freeman et al., 2007; Tantalo & Priem, 2016), such as distributors, retailers, and logistics, etc.

The dimension of government/authority is related to public stakeholders (Public Entities). Public stakeholders are out from the external stakeholders, which serve the public interests and welfare, focused on the overall benefits for human beings and whole society. Governmental influence is ubiquitous to CSR set for society (Moon & Knudsen, 2018). It works for the common good, reasonably and equitably allocate social resources, and aim at establishing fair and harmony society. Companies should comply with laws and policies formulated by government and authoritative institutions, for public interests (Zhang, 2013) and social stability and prosperity.

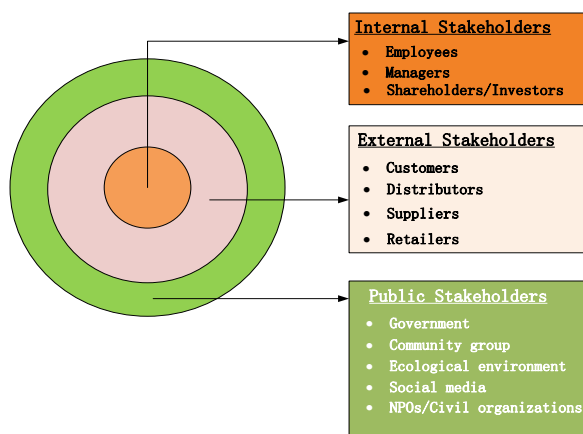


Figure 2.8: The three domains for stakeholders (Zheng, 2006)

2.2.3 CCG model based on Triple Bottom Line

Triple Bottom Line (TBL) has three major aspects in undertaking CSR, namely Economic prosperity, Environmental quality and Social justice (Elkington, J. 1998), which has further been developed into “3P formulation” as representing the term ‘Three Pillars’ 3P worked for People, Planet and Profit (Elkington, 2004).

TBL theory is used for create an economic, social and environmental value (Ho and Taylor, 2007), meanwhile, companies are required to minimize damage and negative impacts caused by corporate operations and business activities (Sarfi & Simmins, 2017), to sustainable development for human beings (Svensson & Padin, 2019).



Figure 2.9: The ‘Three Pillars’ 3P model (Elkington, 2004)

The dimension of company/organization is associated with “Profit”. Profit pillar refers to the economic value created by the company/organization (Alhaddi, 2015). The economic performance of a company is the precondition to ensure the survival and growth of a company (Arowoshegbe and Emmanuel, 2016). Corporate profitability directed towards financial effectiveness (Wagner-Tsukamoto, 2016), which is also the company's capability to contribute to the society. When companies create profits and add value, they directly or indirectly benefit for their stakeholders (Carroll, 2016).

The dimension of consumers/customer is associated with “People”, (Ahi & Searcy, 2015) referring to everyone inhabiting the Earth. The dimension of people in this thesis is different from the previous literatures that focus on HRM and community charity (Onyali, 2014). In this study, people in the CCG model mainly emphasize on the target beneficiary of business activities, who are terminal consumers/customers. Consumers are the most concerned “people” of companies; customer satisfaction directly determines the survival and development of a company (Chung et al., 2015).

The dimension of government/authority is associated with “Planet”. The government should play a crucial role for the earth's natural and social systems. It is not enough only to rely on corporate self-management and self-restriction for achieving “Green Planet”. The role of government is to build the benchmark or standard for protecting natural environment with normative framework and rules for human being survival and social development with holistic consideration. It includes designing effective environmental legislation (Zhang & Wen, 2008), adjusting economic and industrial structure, constructing resource allocation system, building energy saving manage mechanism, in order to pollution prevention and ecological conservation.

TBL just is one of the theoretical foundations to bring inspiration for CCG model, it is definitely not equal to CCG model, which just means one or more TBL's theoretical characteristics or features closely associated with the CCG model, which stimulated and developed the CCG model. For example, Government and authorities play a crucial role towards enhancing environmental stabilization, as well as justice and equity allocation of natural resource in society. However, government absolutely is not equal to environmental dimension, which is to establish and enforce regulations and policies for maintaining environmental quality and saving energy resources.

Planet pillar focuses on environmental protection, along with the reasonable and effective utilization of resources (Alhaddi, 2015), building ecological consciousness to achieve harmonious development between people and nature. It is associated to social modality based on human spirit and social regime with ecological value view. It is also relevant to enhance harmonious and sustainable development of human society, and establish peaceful coexistence with the earth's ecological environment (Elkington, 2013).

Actually, planet pillar closely interacted with social dimensions with intergenerational ethics, and aim to not diminish the opportunities of future persons to “meet their own needs” (WCED 1987). It involves in equitable allocation and sustainable utilization of natural resources (Marsden, et al., 2017), fair and reasonable access to resources for quality of life, health and well-being (Slaper & Hall, 2011). Government planned intervention is considered as a pivotal role in maintaining environmental stability for the common and harmonious development between human and nature.

2.2.4 CCG model for CSR

Based on CSR pyramid theory (Carroll, 1991), stakeholder theory (Freeman, 1984) and triple bottom line theory (Elkington, J. 1998), this thesis generated the original CCG theoretical model for analyzing CSR practices. It is grounded on these existed relevant theories which formed the basis and contribute to offer inspiration and lay the foundation for the CCG model. This thesis establishes CCG model considered as a systematic, integrated analytical framework for analyzing CSR in pharmaceutical industry in China. In the meantime, it emphasizes on the intended beneficiaries from three dimensions, namely consumers, companies and government, which made the purposes and directions clearer for undertaking CSR activities.

It is the obvious shortage in the hierarchical relation of pyramid CSR framework, which putting economic interests first might lead to misunderstanding about the priorities of these four domains (Huang, 2013). In addition, the TBL approach does not address the concerns to consumers who are the ultimate intended beneficiaries of undertaking CSR (Ho and Taylor, 2007), and ignore the profound interaction and interdependence of the TBL three aspects (Archel et al. 2008).

Moreover, it is commonly asserted different stakeholders have different influences to a company. Some stakeholders obviously contribute more than others to a company (Phillips et al., 2003). Corporations should distribute the benefits of their activities to meet the demands of different stakeholders, based on their relative contribution to a company. The limitation about stakeholder theory is there remained distributive and procedural issues related to establish the fairness and reasonableness process used in distribution of benefits to satisfy the different stakeholders (Phillips et al., 2003), in light of their respective contributions, based on their influence power, costs, and risks to the company.

This construct of CCG is similar with the Three-domain model that evolved from CSR pyramid and developed by Schwartz and Carroll (2003), which consists of economic, legal and ethical domains. In this model, philanthropic responsibility is incorporated into ethical responsibility. It improved the pyramid CSR. However, it does not clearly explain the mutual constraint and synergistic relationship from the three domains.

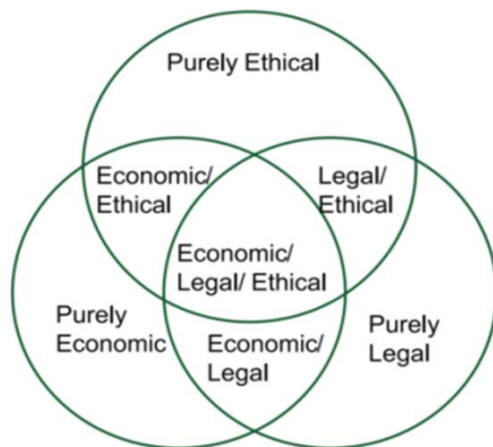


Figure 2.10: The three-domain model of CSR (Schwartz and Carroll, 2003)

The new CCG model is also echoes with SOP framework developed by Ke Huang (Huang, 2013). In SOP framework, CSR divided into the three parallel dimensions of People, Organization and Society, in the light of the different responsibilities and the influences from the three pillars. However, it does not present three main intended beneficiaries of CSR practices from the three pillars in the actual business operation.

The CCG model makes up for these shortcomings of the abovementioned theories, which makes the three important dimensions of CSR having the same status, and highlight the interrelationships with mutual benefit for one another. Therefore, the three aspects interact with each other with equal priority, working in a cohesive and coordinated way, which are equal and interdependent relationship. The CCG aimed at maximizing synergies and minimizing trade-offs for the three pillars, with holistic consideration from the three dimensions simultaneously for achieving CSR in full.

Moreover, CCG model absorbs the advantages of the above theories, regarded as the aggregation of social, economic and ethical responsibilities; under considerations from three dimensions of government, companies and consumers, analyzing CSR from internal, external and public stakeholders. The three dimensions of CCG are equally important, and generate synergetic benefits for one another to improve CSR, correspondently enhance 3Ps performances for corporate sustainable development.

The dimension of consumers/customer is from the People dimension. Companies' business activities are to meet certain needs come from people (Chung et al., 2105). In real life, every individual in our society is a consumer. Therefore, people regarded as various terminal consumers formed different consumer groups, considered as the goals of different companies' products and services. In this sight, the employees of one company are the consumers of other companies and vice versa (Huang, 2013).

The dimension of company/organization is from the Organization dimension, running and operating of companies is to enhance the profitability for corporate survival and growth (Wagner-Tsukamoto, 2016; Wagner-Tsukamoto, 2019), which is also shared goals that internal stakeholders work together to achieve for improving the economic performance. Meanwhile, companies are supposed to perceive and respond to reach the reasonable and legal claims from external and public stakeholders.

The dimension of government/authority is from the Society dimension. Government act for the common interests in the dimension of Society (Moon & Knudsen, 2018), ensuring equal opportunity to all people, enhance the public good, social stability and prosperity of nations, etc. Government intervention with permission, supervision and enforcement powers provide the benchmarks and standards of business operation and commercial activities. It enacts and enforces the relevant laws and regulations to punish anyone crossed the line, for safeguard the fundamental right of human beings, ensure social justice, guarantee a fair resource allocation, maintain environmental sustainability, and so on. Companies are supervised and regulated by principles and the rules from government (Tang et al., 2018). The role of state organs/agencies and government authorities are to serve the interests of the whole society and the broad masses of the people from the overall consideration (Schweitzer & Lu, 2018).

In this study, the CCG model is a systematic framework to analyze and discuss the prominent CSR issues faced by pharmaceutical companies in China. CCG provides more concrete angle to analyze the equal three dimensions and the interdependent relationship among Customers, Companies and Government, which advocates the goal of holistic CSR consideration, underline the three-dimension interactions with each other and have the same priorities without being partial to one over another.

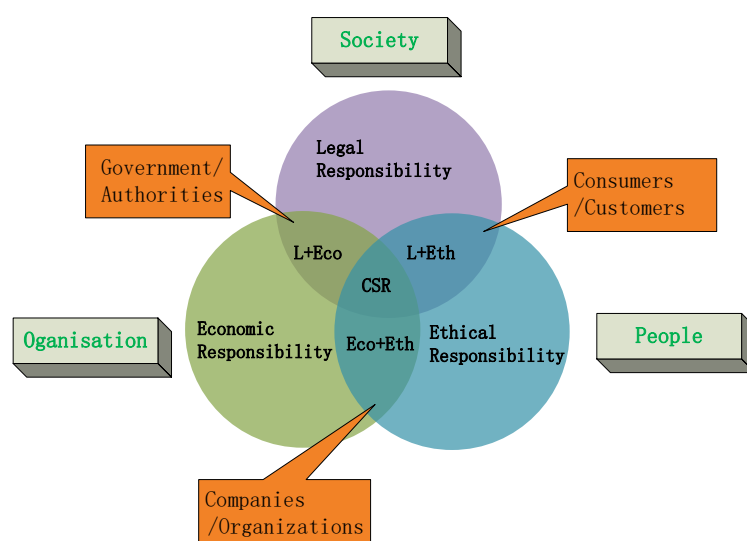


Figure 2.11: Three aspects of CSR (Huang, 2013)

2.3 The core/main stakeholders in pharmaceutical industry

The pharmaceutical industry has a dual role in CSR the practices and performances. On the one hand, there are the common responsibilities same as other industries; on the other hand, the pharmaceutical sector needs to take some special CSR owing to the unique characteristics of this field (Donaldson & Preston, 1995). CSR activities can be industry-specific, led to pharmaceutical industry regarded as a very special field, it has to burden extra CSR commitments due to the 'dual role', which means selling disease-curing and even life-saving products at the same times in a for-profit way with economic purpose. It inevitably associates with the complicated economic, environmental, ethical and social responsibilities.

Leisinger (2009) held a viewpoint that the main tasks of pharmaceutical industry are to research and develop of innovative medicines to improve medicinal quality and efficacy to enhance people's health and saving life, for improving the living quality of human beings, which are of responsibilities do not share by other business fields. It means providing better innovative pharmaceuticals and better medical treatment to relieve suffering and alleviate pain for patients, not only just selling products in a profitable and lucrative way. There are normally three challenges in pharmaceutical industry need to face, namely availability, accessibility, and affordability of essential medicines and healthcare services for all people, which is still not fully achieved and is especially inadequate in some developing countries (Smith, 2008).

Due to its involvement in the development of medications and the improvement of people's health, ethic consideration has a high impact on CSR activities in the pharmaceutical industry (Khodabandeh & Nahra, 2018). It is always experiencing greater social risks and moral condemnation associated with developing, testing, producing and selling of medicines (O'Riordan & Fairbrass, 2008). CSR violations would lead to more serious negative consequences in the pharmaceutical industry, with heavy losses and huge destructive influences on the general public and social security, due to the characteristics of this industry (Blombäck & Scandellius, 2013).

Moreover, the previous research (Oger, 2009; West, 2012) have showed that it is important to understand and implement CSR, not only for the interest of stakeholders of the pharmaceutical companies, but also for corporate long-term development and success. Corporate operations failing to follow CSR could lead to serious adverse consequences and economic costs, have to face strong moral/social condemnation and sanctions of the law, which have further outweighed the short-term benefits from violating CSR. For enhancing the CSR performance, it is necessary to perceive and undertake CSR with consideration of stakeholders explicitly, integrating CSR into business strategies to establish or maintain harmony and cohesive relationships with their stakeholders, for obtaining corporate long-term competitive advantage.

Enhancing CSR practices and performances means corporations have to consider the demands of core/main public, internal and external stakeholders, and to identify and satisfy the needs come from different stakeholders (Nicolescu, 2018). Different stakeholders have different expectations, it is essential to meet various claims from different stakeholders, for generating synergy and achieving value-added process for corporate sustainable development.

Stakeholder management is an ethics-based theory (Katamba et al., 216), which is individuals or groups with mutual influences and interest relationship, regarding to corporate business operations and activities. CSR with consideration of stakeholders is to develop and maintain the relationship with stakeholders (Pathak & Bhola, 2014). The following specifically explain and analyze the core/main stakeholders in Chinese pharmaceutical company, and their interests and interactions with pharmaceutical companies, which could significantly influence on the corporate CSR performance.

There are various stakeholders in the pharmaceutical industry, which have different roles and influences with different demands and claims, mainly including employees, managers, shareholders, business cooperative partners, government, competitors, patients, doctors, local communities, environment, public media, etc. Stakeholders of the pharmaceutical industry have the special traits and features compared with other industries. Pharmaceutical companies also need perceive and satisfy the demands from different stakeholders during interactions with them (Smith, 2008).

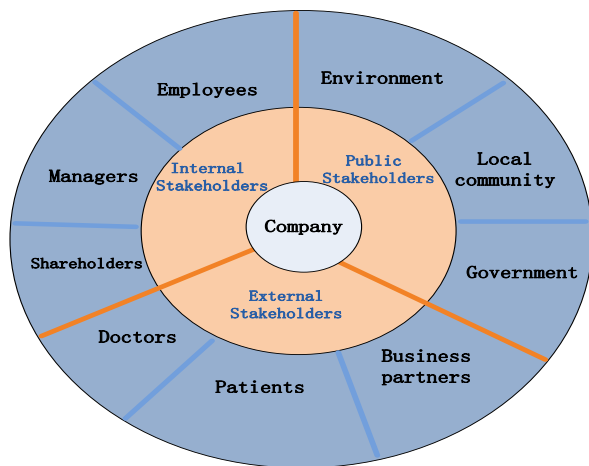


Figure 2.12: The core stakeholders in the Chinese pharmaceutical industry (produced by the author)

It is important to put these stakeholders related to pharmaceutical industry into different categories. Zheng (2006) divided these stakeholders into three categories, namely internal stakeholders, external stakeholders, and public stakeholders.

Internal stakeholders refer to some stakeholders who are internal to a company and participated in corporate activities and practices inside of a corporation, they mainly serve the interest of the company. The most fundamental mission of CSR is to meet the need from internal stakeholders, who have direct influences of corporate survival and development (Beringer et al., 2013), and often have a decisive role for corporate success or not. The main internal stakeholders of pharmaceutical companies include their shareholders, investors, managers, and employees.

External stakeholders are independent entities, organizations, individuals outside of a company; they take part in and influence on the corporate business operation and running (Pinheiro, 2015), considered as the precondition for corporate surviving and sustaining development (Harrison & John, 1996). The external stakeholders mainly cooperate with companies to achieve the production, transportation and delivery of products and services for realization of customers' demands and expectations, which contribute to the value-creating process of companies (Freeman et al., 2018). The main external stakeholders include business partners, patients and doctors.

Public stakeholders exert crucial influence on corporations. In this thesis, the part of external stakeholders is divided into public stakeholders who do not directly engage and participate in the process of corporate operation. These stakeholders separated from external stakeholders are divided into public stakeholder groups. This way of classification made the different kinds of stakeholders' position and function clearer. The public stakeholders focus on the public interests and the general welfare, which work for whole society and benefit broad masses of people from holistic perspective, and set for the entire social benefit and represent the general interests of the overall public. It was in accordance with the standpoint of stakeholders from Wood & Jones (1995), who asserted social mechanisms could provide pressures and supervisions to corporate CSR initiatives, implementations, performance and consequences (Fu, 2019). The main public stakeholders cover government, environment, and the local community, and so forth (Zheng, 2006).

CSR practices are responses to the claims of stakeholders, and efforts to achieve their expectations (Agudo-Valiente et al., 2017). The reasonable and legal demands from each stakeholder groups come into being the main purposes and directions of CSR. The following would present the different CSR aspects from main stakeholders with different needs and influences in the pharmaceutical industry respectively.

Shareholders' interests are maximizing economic profit for the corporate investors, ensuring return on investment and bringing lasting profit to shareholders. The small and medium shareholders have less bargaining power in the board of directors for corporate operations; but their needs also should be safeguarded, which reflects a kind of management commitment for corporate stability and reputation (Sjöström, 2010). Moreover, corporations have to distribute dividends in time to obey and fulfill the relevant legal provisions and rules. Lee & Kohler (2010) considered that raising transparency are one of the most important CSR practices for the pharmaceutical corporations, Nussbaum (2009) supported that transparency enhances the credibility as well as the authenticity of corporate CSR implementation and performance, which brings the better reputation and loyalty, increase sales and attract investors.

Managers are the decision-makers of the company's business plans and strategies and they are the mainstay of a company's running, which plays a decisive role in the survival and development of the companies (Swanson, 2008). Managers are crucial human resources who conduct the daily corporate management and operations (Székely & Knirsch, 2005). Accordingly, improving CSR practices could result in the increased job satisfaction, and enhance the work efficiency, subsequently increase overall corporate competitiveness and profitability (Angus-Leppan et al., 2010).

Employees always are the core competitiveness of companies, both economic and psychological bonds exist between employee loyalty and the enterprise development (Noe et al., 2017). The high turnover rate has a negative impact on the credibility and reputation, cost efficiency of enterprises. The talented employees in pharmaceutical companies usually with special knowledge and professional requirements also pose a higher challenge to human resource management (Khoele & Daya, 2014). It is very important for attracting and holding top-quality medical professionals.

As a result, corporations engage in the various CSR practices for their employees, including reasonable payments, non-discrimination for every employee with equal

treatments, opportunities of training and promotion, safe and harmonious working environment, and so on (Haski-Leventhal, Roza & Meijs, 2015). If these demands cannot be met, employees will be dissatisfaction with their work conditions, which has negative effects on work enthusiasm, initiative and creativeness of employees, which would be very unpromising about companies' future (Buttner & Lowe, 2017).

Business partners are indispensable parts of the corporate business running and operation. The cooperation relationship with business partners determines success or failure of a corporation. Leppelt, Foerstl & Hartmann (2013) depicted that the CSR practices related to business partners covering payment for goods on time, strategic alliances and business collaboration, and the critical information sharing, supervise business partners to protect human right and environment issues, and in compliance with legislation and regulation, and so on.

Patients are the ultimate consumers of medicine products (Pathak & Bhola, 2014). Pharmaceutical companies must take the accountability and answerability to patients including guaranteeing the quality and safety, availability, accessibility, affordability of medicine products, and so forth. The end-users in pharmaceutical companies are patients and people who want to enhance their physical health. Quality control is the core/vital of medicines (Li, et al., 2011). The medicines without the quality guarantee, in a sense, cannot cure disease effectively, delaying treatment timing, and endanger patients' life. It cannot ensure the basic purpose of drug use for safety and efficacy of treatment (Yu et al., 2019). To guarantee the quality of medicine products, enforcing and putting into effect on strict quality standards for medical products and services is the crucial CSR implementation for meeting the needs of the consumers.

Doctors play a decisive role in pharmaceutical industry (Green et al., 2012). Doctors should delivery complete information about medicines and treatment protocols, the authentic therapeutic effect of drugs and the worst possible side effects should be clearly fully advised and explained to patients. Sometimes, doctors play a crucial role in marketing of prescription medicines (Cao & Wei, 2014). The patients use and pay for the chosen medicines which are already been decided or largely affected by the doctors (Gönül, et al. 2001). it is need to step up efforts for prohibiting the bribery of hospitals and doctors in any form for promoting drug sales, which not only violates CSR, but also are illegal activities (Russo, 2014), and harm the benefit of consumes.

Government should serve the interests of the whole society and the broad masses of the people in the light of the overall consideration (Schweitzer & Lu, 2018). The government regulatory agencies and authorities should work for the public interests, but also help the enterprises to achieve their business purposes, which play critical role for CSR implementation and performance (Haigh & Jones, 2006). Government officials and policymakers should enhance policies and regulations; strengthen the enforcement and effectiveness of law regime for improving CSR performances in the pharmaceutical industry.

Environment means that corporate operations and activities do not have an adverse influence and damage to natural ecosystems; reasonable and efficient use of natural resources; energy-saving recycling and reusing waste materials, as well as willing to do some efforts to improve the surrounding environment (Dunn et al., 2010). And especially pharmaceutical manufacturers traditionally regarded as one of the largest

environmental polluters, it is serious important to properly dispose of pharmaceutical residue discharges during the production of Active Pharmaceutical Ingredients (APIs) (Larsson, 2014) for reducing negative impacts on the environment.

Pharmaceutical pollution has attracted more and more attention, which is recognized as a threat to environment and human health, and could enter the ecosystem at all stages of the product life cycle including drug production, use, and disposal (Deloitte, 2016). Therefore, pharmaceutical corporations should strictly follow corresponding laws and regulations to minimize the negative environmental influence; increasingly recognize the importance of environmental conservation; put supervision and control measures into effect for pharmaceutical manufacturing process to improve resource utilization; and use high technology and advanced equipment for reasonably treat pharmaceutical waste pollution; disclose environment-related information (Larsson & Fick, 2009), etc. Pharmaceutical pollutants destroy the natural ecological system and jeopardize life safety and health of people, which is contrary to the CSR intention of pharmaceutical corporations to improve the quality of people's lives.

Local community can provide labor/workforce, land, energy sources, and various infrastructures for pharmaceutical companies, which has a meaningful influence on corporate operation and running. Common CSR activities to benefit local community in the pharmaceutical industry include donating medicines and healthcare treatments for the poor and disadvantaged patient groups; supporting R&D of medical products to serve for the masses; taking part in various charity activities about pharmaceutical products and services, and so on. These efforts are significantly contribution to local community, especially in some developing countries (Jamali, 2010), which also could enhance corporate image and reputation, gain better brand loyalty for corporations, accordingly to increase opportunities for business success (Logerais, 2014).

All in all, CSR is used to account for the complex and multi-faceted relationship with different stakeholder groups. Parker (2007) suggested that CSR understanding and implementation need to pay more attention in pharmaceutical area. Comprehensive CSR formulations in pharmaceutical industry mean the more ethical constraints and considerations to various stakeholders to achieve synergistic effects (West, 2012). It is necessary to improve CSR in the R&D, producing, marketing, using and deposal of pharmaceutical products; strictly conform to laws and regulations; provide truthful drug information to customers; set reasonable prices of medicines for patients, etc. CSR initiatives with stakeholder management are to build and maintain harmony and cohesive relationships with stakeholders, and win the support and cooperation from stakeholders, for achieving corporate long-term development and success.

2.4 The CSR challenges in Chinese pharmaceutical industry

CSR understanding and implementation is one of hottest topics in business context nowadays. Nevertheless, not only CSR theory originating in western countries, but also the early stage of CSR academic studies mainly focuses on western countries (Wood, 2010) like as Europe and United States (Chapple & Moon, 2005). In recent years, the growth of CSR concern arises in Asia (Wright, 2008), CSR's research has increasingly focused on Asian backgrounds (Scholtens & Kang, 2013), especially in China with rapid economic growth where have different features and demands for CSR compared with western countries. How to achieve or enhance CSR faced with huge challenges for companies operating in China (Graafland & Zhang, 2014).

CSR constructs, values, ethics, formulations are broadly variance across countries, thereby increasing tension and widening gaps in CSR implementations and practices between different countries (Wolf & Thiel, 2017). There are enormous challenges of operating CSR in the Chinese business surrounding (Darigan & Post, 2009) where has a significant influence on the understanding and implementation of CSR with Chinese unique characteristics, including rapid economic growth, different traditional cultural climate, social atmosphere, legal system and political regime, etc (Tilt, 2016),

CSR has gradually become more and more popular, and occupied a vital position in business activities and corporate operations in China (Wei, 2015). With the growth of attention, Chinese corporations start to integrate CSR into business decision-making, sometimes, CSR is regarded as a strategic tool, which contribute to create economic value for corporate survival and development (Li, 2012), meanwhile simultaneously addressing social and environmental needs and challenges. In fact, companies can improve profitability, at the same time, also can improve environmental performance, technological advancement, public health, safety and happiness, and other societal wellbeing with self-sustaining CSR solutions.

How to enhance CSR practices and performances of enterprises faced with huge challenges in Chinese business context (Graafland & Zhang, 2014). China has different economic developing trajectory, political regime, policy mechanism and legal system, unique cultural tradition and social ideology, insufficient technological level and innovation capability, complicated historical development and epochal background, in contrast to their counterparts in western countries. These all have significant impacts on CSR practices in the unique China-targeted business setting.

Although CSR are rapidly developing and growing globally, it is common that some emerging economies and developing countries often are lack of adequate regulation, supervision and enforcement related to CSR (Jamali, Lund-Thomsen & Jeppesen, 2015), and shortage of full and clear understanding to CSR. Especially, China faced the influences from unique socio-cultural and historical tradition (Dhanesh, 2015), lack of independent R&D innovative technologies (Wang, 2015), inadequate relevant regulation and legislation, immature policies, and so forth. Therefore, China with economic takeoff faced huge challenges, considered as a valuable and meaningful research target setting to study CSR in emerging and developing countries (Wolf & Thiel, 2017), aimed to enhance corporate CSR commitments and implementation in the changeable and turbulent and fierce pharmaceutical market competition in China.

Economic development in China

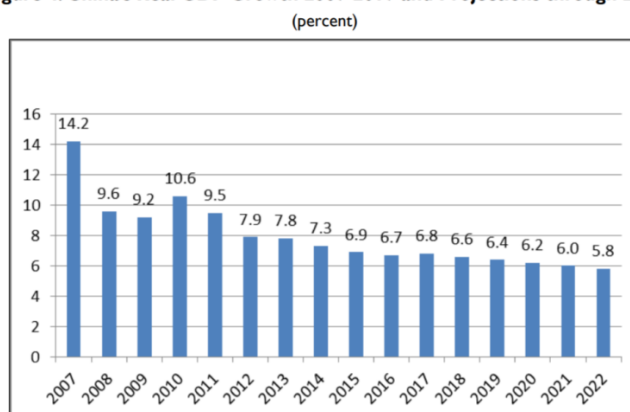
In the study of CSR in China, it is important to consider its unique trajectory of economic development compared with those in western countries (Li et al., 2008). In recent years, China has gone through a fundamental transforming from a planned economy to a more market-based economy (Chovanec, 2010). The reform of market structure and the fast-changing direction of commercial policy resulted in business context has tremendous changes in the last thirty years (Naughton, 2007).

The transition from a planned economy to a socialist market economy launched on Mainland China in 1978 (Savarese, 2017). The policy of 'reform and opening-up' has provided a strong impetus to Chinese economic boom (Shafer, 2010). The market-oriented economic reform with economic liberalization is considered primary engine of business growth. It results in plenty of market opportunities, and also makes the market environment highly uncertain and intense competition (Zhou and Li, 2010).

China's economy is through several decades of explosive growth, based on a unique mixed economic regime/system that incorporate limited capitalism within a command economy (Amadeo, 2019). During this period, political, economic and administrative systems all underwent huge changes, which triggered some unique CSR challenges in Chinese business context. Government policy is a crucial and decisive force which directly influences industry structure and market competitiveness (Wu and Yang, 2014). For example, in recent years, the deepening of the healthcare system reform, the innovating of the medical and social insurance system, and the frequent changes of drug policies have brought turbulent conditions and tremendous influences on the market of medicines in China. Companies operating in China faced huge challenges, because of corporate business decisions and strategies need to change and adjust according to the changeable policies and regulations enacted by government.

China's current unique socialist market system is the combination of a free-market system and central-planned system (Zhang, 2016). Market mechanisms with more market-adjusted autonomy in transition economy led to an era of rapid economic growth. China as a developing country has been the second largest economy in the world (Yiyun et al., 2017). With the soar of economic growth, there is a shortage of relevant effective and feasible regulation and legislation, leading to a multitude of CSR issues arisen in the changeable and turbulent business environment.

Figure 4. China's Real GDP Growth 2007-2017 and Projections through 2022



Source: IMF, WEO.

Figure 2.13 China's Real GDP Growth 2007-2016 and Projections through 2022 (WEO, 2017)

China's transition economy has attracted a large number of western MNCs, since the middle of the 90s of last century, the concept of CSR first entered into China, come along with a flood of foreign enterprises began to flow into the active market of China. Undertaking CSR activities in China faced more challenges. For example, Chinese suppliers and manufacturers cooperated with foreign multinational companies need to satisfy the needs of foreign stakeholders (Zheng, 2006); meanwhile, the western MNCs operating in China should also meet the requirements of local stakeholders.

China's economic system has shifted to a market-based socialist economy (Allen et al., 2005), which not only provide enormous opportunities, but also bring significant challenges for business development. China with rapidly economic growth plays a significant role in the global business, significantly contributes to the prosperity and progress of the world economy. However, some issues in relation to CSR arisen in China, because of its fast-growing economy with the trend in the pursuit of maximum benefits, and aggressive campaigns of marketing and merchandise in China. It has brought the widespread CSR attention, increased the urgency of CSR improvement. Accordingly, it is necessary to promote the self-consciousness and self-regulation of enterprises operating in China for enhancing CSR practices and performances.

Traditional social culture in China

In addition, the Chinese unique social-cultural traditions play a crucial role in CSR activities. The different cultures affect the CSR understanding and implementation (Strand, Freeman & Hockerts, 2015), which will lead to different perceptions and performances of specific CSR conducts and practices (Hofstede, 1980).

Corporate CSR commitments embody an integrated result of the beliefs, rules and conventions due to the cultural environment in where they operate (Zhao, 2012). Nowadays, business environment of MNCs is more international and more complex (Zhao et al., 2014), due to encounters of conflicting social expectations in different culture background sometimes. Confucianism has contributed to mainstream culture throughout the whole China historically (Tilson, 2010). Confucius philosophy widely is regarded as a core philosophical foundation of moral behaviors (Singham, 2007); it pervaded into all aspects of life, including business operation and management in China, which is integrated into the application and development of CSR, and has become an indispensable part of CSR orientation and formulation in Chinese society.

Confucian principles are considered the main foundation for commercial ethics and behavior criterion in the past 2500 years; it has been rooted firmly in Chinese culture, which has an important role on Chinese business activities (Pun et al., 2000). Confucianism as the mainstream consciousness of society is very different from the western countries, which resulted in dissimilar understanding and practices on some aspects of CSR. The different CSR perceptions lead to the different demands from stakeholders. It is the main reason that western MNCs subsidiaries operating in China need to tailor CSR strategies to meet the local needs (Nilsson & Tsai, 2016).

Confucianism emphasizes on the importance of people, advocate people-oriented (Wei & Zhang, 2011) management and harmonious development. In China, Guanxi,

namely personal relations and social networks, has significant influence on business communication, which indicates utilizing mutual benefits for attaining and maintaining harmonious relationships. People in the Guanxi network comply with the principles of reciprocity, which interacts with each other and establishes certain connections (Luo, 1997). Guanxi that advocates mutual-aid principle has penetrated into all aspects of Chinese business activities with huge effects. However, the misuse of Guanxi is the hotbed of bribery and corruption (Tucker, 2010). Guanxi with long-term reciprocity seems to be obscure and perplexing to westerners (Khan & Tang, 2019). Therefore, western MNCs operated in China faced challenges to understand Confucian ethics and appropriate use of guanxi, which is inevitably in communication with Chinese for building cooperation and doing business (Chan, 2008).

Hofstede framework analyzed about cultures impacts in the business environment (De Mooij & Hofstede, 2010). for assessment of cultural diversity and discrepancies between different countries worldwide (Hofstede 2001; Hofstede & Hofstede 2005). According to Hofstede's cultural dimensions, China is a masculine society (Hamid, 2016). Chinese culture is also success-oriented and many Chinese are willing to sacrifice leisure time or family time for their work. When materialistic achievement is being emphasized, and driven by the twin lusts for money and success, some people who succumb to greed (Leung, 2008). It resulted in the breeding ground for bribery and corruption. Furthermore, China is a collectivist society within a Confucian culture that is high on power distance (Hamid, 2016), and uncertainty avoidance (Faraoni et al, 2021). Decision-making right is often under the control by leaders. The hierarchy construction based on Confucianism made people normally has to obey and follow those who have higher status, which sometimes restricts the development of working enthusiasm and creativity. Moreover, abuse of power also is a breeding ground for corruption. It is inevitable that Power without enough supervision corrupts absolutely. For example, in cases of power abuse will lead to unfair, there is less discourse right to defense by the subordinates (Nilsson & Tsai, 2016).

On the positive side, there is some coincidence between Confucianism and the western CSR concept (Lam, 2003). It makes Confucius culture become a powerful driving force for CSR practices in Chinese business environment. For example, the both do not advocate to only focus on economic interests and ignore the social and environmental performance. Chinese culture about harmony development indicates respecting nature and loving people (Wang & Juslin, 2009), namely the Confucian interpersonal harmony, and build harmonious relationship between man and nature. Sometimes, incorporating Chinese traditional culture into CSR formulations and strategies could contribute to improve CSR performance, and help corporations to understand and adopt CSR with viable initiatives in Chinese business context.

In a word, every coin has two faces, the Chinese traditional culture plays a vital role to influence CSR practices. On the one hand, the unique business philosophy and hierarchy management style with Guanxi brought huge challenges for perceive and implement CSR of western MNCs operating in China. On the other hand, it upholds business ethics in contemporary society of China (Chan, 2008). It advocates ethical behaviors in China's business environment, considered as the guidance and support for establish feasible and viable CSR strategies with Chinese cultural characteristics, which is regarded as a significantly driving power for prompting CSR performance and establishing a harmonious society in China (Wang and Chaudrhi, 2009).

Technological development in China

Faced rapid development of economic globalization and knowledge economy, high technology products gradually become center dynamics in modern business growth (Coccia, 2017). Especially in science and knowledge intensive industries, more and more companies focus on developing high-tech products in order to gain marketing competitive advantage and long-term development (Hayton, 2005). Pharmaceutical industry needs to have technological support and innovation capability for developing cutting-edge medicines and treatments, encourage increasing investment into R&D of innovative medicines, for enhancing marketing competitive power and position, and satisfy the needs of customers to better achieve CSR.

In China, knowledge-intensive business services and high-tech manufactures have made significant progress in recent years (Qi et al., 2019). The Chinese government has realized the importance of technology development, and emphasized innovation is the driving force of economic growth (Hong et al., 2016). Chinese R&D investment the R&D has grown remarkably (Veugelers, 2017). Innovation capability as a critical force of technological dynamisms is receiving more and more attention (Fan, 2014). However, due to the late starting, lack of high-tech talents, shortage of technological ability, and inadequate financial support, the Chinese technological innovation power still lag behind western countries, vigorously enhance R&D capability for sustainable growth still is a big challenge (Li and Atuahene-Gima, 2001).

Through several decades of learning and cooperation with the western MNCs and foreign strategic partners (Chung, 2014; Wang et al. 2016; Yang et al. 2016), the innovation capabilities have been largely enhanced in China. However, the “Made in China” is still the label that is generally associated with the cheap and poor quality of product characteristics. Chinese government has enacted a large number of policies and regulations to boost R&D innovation capabilities, for transforming from “Made in China” to “Design in China” (Huo et al. 2013), and improving innovative creativity and technological development, which is the essential for companies to undertake CSR successfully in the pharmaceutical industry.

However, it is general impression that China is regarded as a 'duplicative imitation' country for low-value-added and low-tech products. The innovation achievement of China is still not enough to be widely acknowledged worldwide (Cheung, 2011). It is necessary to develop ground-breaking products and services with the technology-intensive and knowledge-intensive characteristics, to switch the focus from imitation to innovation for changing this common stereotype, which play vital important role in improving the sustainable competitiveness of Chinese products in the global market.

The corporate knowledge resources, innovation consciousness, independent R&D capacity, and technological level of manufacturing all have significant influence on corporate products competitiveness and performance (Liu & Jiang, 2016). Product innovation is resource-consuming activity with high risk (Freel, 2000), long cycle and huge investment. The current status of China's R&D capability in the pharmaceutical industry still in a backward state need to further strengthen and enhance, which is essential to accelerate development for innovative medicine products, for improving CSR performance and facilitating corporate sustainable development and success.

Political systems and legal regulations in China

Nowadays, some companies still considered that the majority of implementing CSR is voluntary principles. However, there are always parts of CSR practices belonging to mandatory activities under the constraint of legislation and regulation, especially in pharmaceutical industry. Flanagan and Whiteman (2006) underlined it is necessity for government to active, multifaceted and innovative participation in supervising and restricting companies to meaningfully engage in CSR-related actions.

However, CSR is still in the stage of enlightenment in China, which is a relatively new concept in the embryonic stage compared with the western countries (Yang & Rivers 2009). There is the absence of a well-established legislation system (Khanna and Palepu, 1997) to support and encourage CSR implementation. Due to the lack of mature institutional framework and relevant regulatory system for CSR (Guan & Noronha, 2013; Yin & Jamali, 2016), there are some opportunists taking advantage of the loopholes of existing law and regulation, resulting in irresponsible behaviors and activities spreading (Hoskisson et al., 2000).

There are some shortcomings in the Chinese existing legal system related to CSR. For example, In China, the 2006 Company Law has launched in order to provide a more explicit CSR recognition. Article 5 indicated that *“the company is obligated to comply with law and regulations, conform to social morality and business ethics, act in good faith, under the government and public supervision as well as undertake social responsibility”* (Chinese Company Law, 2006, Article 5). However, there is no definition of CSR specifically; and not stipulated what kind of CSR practices need to be enforced; it has also not stated the consequence of failure to take CSR. In some extent, the reality is that there are some unenforceable CSR policies for a business organizations and companies. Only legal system and regulatory constraints are in place, government can effectively supervise, manage and control the issues related to CSR (Zhu & Tan, 2008), to ensure the achievement of essential CSR practices.

Chinese government also puts great stress on growth of the pharmaceutical industry to improving quality of life. China promotes the ‘Healthy China’ strategic emphasis for flourishing the medical industry sector and the widening healthcare services as a whole (Savarese, 2017). China's complex plan of health care system reform began in April 2009, with ambitious goals of providing universal coverage of essential health services for all Chinese citizens by 2020 (Li & Fu, 2017). The new medical reform is with the national long-term goal of establishing the sustainable and effective public healthcare system, to enhance domestically medicine product competitiveness and boost and elevate the capacity of the pharmaceutical market development in China.

Regulatory policies come from government and authorities play a crucial /dominant role towards improving CSR. China's government has been carrying out various legislation and regulations to encourage and develop the China's pharmaceutical industry and upgrading the China's medical system to enhance the R&D, production, sales, utilization and management of medicines. The Chinese health care reform and medicinal/drug policies have gone through drastic changes in recent years, and they continue to evolve, which will significantly influence on the pharmaceutical industry (Li et al., 2017). These changes provided not only great opportunities, but also many challenges to pharmaceutical companies operating in China (Shen, 2008).

2.5 The CSR issues/concerns in Chinese pharmaceutical industry

The Chinese Pharmaceutical industry is experiencing rapid growth (Ni et al., 2017), which has attracted more international attention. Nowadays, China becomes the second-largest pharmaceutical market of the world, second only next to the United States (China National Union for Medical and Pharmaceutical Practitioners, 2013).

China's population aging is accelerating gradually; accordingly, the prevalence of chronic diseases in the total population has increased, come along with economic expansion and increased affluence. People starts to foster their health awareness who need a better life and pay more and more attention to their health. In late years, with rapid growth of economic development and the enrichment of living standard, Chinese people is cultivating healthcare awareness with raise consuming standards and demands, seeking for better healthcare and innovative medicines. The change of lifestyle would need more innovative medicinal products to guarantee or maintain higher life quality and healthy life. China pharmaceutical market trend continues to experience rapid enormous growth. Accordingly, some CSR issues have arisen in the changeable and turbulent, fierce pharmaceutical market competition in China.

The pharmaceutical industry is confronting some outstanding CSR issues, including overpricing drugs (Hu & Mossialos, 2016); immoral marketing; luring and bribing doctors (Schipani, 2016); environmental depredation and damage; unsatisfactory product quality and security, and so on (lu et al., 2016). It is essential core to improve CSR perception and implementation of pharmaceutical corporations for addressing these prominent CSR problems, which needs to be paid more attention and need to solved urgently in China. With effective CSR initiatives and strategies, companies can improve profitability for corporate commercial purposes, meanwhile can address environmental and social performances, public health and social security of general public, and other societal wellbeing with self-sustaining solutions.

The pharmaceutical sector is always regarded as a very special field, which normally involves a multitude of complex ethical, economic, environmental and social issues. However, it is frequently reported by public media that unethical business behaviors of pharmaceutical companies against CSR norms in China. Such as, unreasonably high-priced medicines, bribe doctors and government officials, conceal side effects of medicines, etc. These unethical behaviors result in negative consequences along with major scandals and lawsuits of pharmaceutical companies (Frederiksborg & Fort, 2014). CSR violations not only damage the interests of consumers and bring disastrous losses to the corporate reputation; but also bring the catastrophic financial losses, such as, huge fines and financial compensation, and so on (Baciu, 2010).

There is considerable media coverage about scandals from western pharmaceutical MNCs operating in China. For example, systematically bribing doctors promote sales in China from GlaxoSmithKline (GSK), which is a famous UK-based multinational pharmaceutical giant from Europe countries (BBC, 2014). These poor CSR practices are from even renowned MNCs which sometimes lower their own ethical standards and CSR performances when operating in China. It reflected the urgent need to improve CSR implementation and performance in the Chinese business context.

In the meantime, the negative CSR practices also took place from some domestic Chinese pharmaceutical companies. Especially, it is fatal and devastating that poor product quality has brought the large negative social impacts, which leads to health risk to customers. For examples, In January 2009, Jiangsu Yanshen Pharmaceutical Corporation produced the 210,000 unqualified of rabies vaccines. Due to the volume of active ingredients was under the national standard, they lose efficacy and cannot guard against rabies, but still sold and used throughout the whole country by this pharmaceutical corporation. It resulted in more than 200,000 people affected by the invalid vaccines. Nevertheless, the punishment came out just that very few persons involved in this incident took responsibility and most of them simply faced moderate token fines (Dong, Huang & Dong, 2009).

Accompanied with the fast economic development, a large number of CSR issues emerged in Chinese business context, due to inefficiencies of drug management policy, improper pricing mechanism, abnormal incentive mechanism, and immature medical system, and erosion of business moral and ethics, etc. As a result, some highlighted issues related to CSR have already attracted a lot of attention in China (Tian & Slocum, 2016). There is an urgent need for coping with these CSR issues arisen in Chinese pharmaceutical industry, which presented as follows:

Quality and safety of product in pharmaceutical industry

Improving and guaranteeing the quality of medicine products is the top CSR priority of pharmaceutical Companies in China (Yiyun, 2017). The purpose of selling and using medicines with desired anticipative effects is to help people to improve health and cure diseases, which cannot achieve without the guarantee of the medical safety and quality (Zhang, 2007). Authorization and license for the manufacturing practices of pharmaceutical production is foundation that ensures the medical products with satisfying quality and reassuring safe to minimums risk for people.

As a result, in China, the Chinese Ministry of Health decreed the first GMP (Good Manufacturing Practice) version in 1988, and later through several amendments, the last time is the latest 2010 version of GMP, which is in the line with EU standards (Zou, 2012). GMP provided the minimum requirements of product manufacturing in mandatory which pharmaceutical corporations have to obey for product quality and safety assurance. It not only denotes the quality supervision and surveillance for medicinal products, but also for guaranteeing the acceptable conditions of entire manufacturing process in every step of the pharmaceutical production chain (World Health Organisation, 2015). Eligible pharmaceutical manufacturers should comply with the requirements from GMP authorization and license; abide by GMP standards and legal stipulations; to ensure conformance to the rules and regulations of GMP.

GMP have alleviated the quality problems of medicines in the Chinese market, but there are still some shortcomings need to be further improved (Yiyun et al., 2017). To a certain extent, the quality and safety of medicines need more concerns, and are considered as core CSR issues in pharmaceutical industry under Chinese business context where the law frameworks and legal institutions related CSR are inadequate and immature, which need remarkable enhancement (Guan & Noronha, 2011).

Promotion and advertising in pharmaceutical industry

Over-the-counter non-prescription drug advertising (OTCA) is one kind of marketing tool or mode of pharmaceutical products (Xuefei & Shuling, 2017), which faced to terminal consumers with the business goal, for publicity and propaganda of certain OTC medicines to increase sales, make profit and advance economic interests for corporations. Advertisements would play significant roles to influence Consumers' purchase intentions and behaviors (Aufegger et al., 2021).

The growth in OTCA has facilitated pharmaceutical corporations to spread their medicinal products and services to get more extensive customers. It is necessary to be a fair and comprehensive presentation of the risks and benefits of medicines in OTCA to promote and encourage a rational usage of medicine products properly. Providing complete and accurate information about medical efficacy and side effects will be the essential to CSR for increasing corporate reputation and customer loyalty, which could also reduce risk to medicinal accidents and lawsuits (Parker & Pettijohn, 2003). However, OTC advertising, sometimes for selling purpose, is not based on authentic information for consumer interests. For example, it could be exaggerating the perceived efficacy of drugs and hiding the side effects of drugs, with excessive dosage of medicines more than the actual needs (van de Pol & de Bakker, 2010), which significantly limit the consumer's ability to make an informed decision.

It is a serious problem in China to face false publicity and exaggerating therapeutic effects in pharmaceutical advertisement. Santiago et al. (2008) gave the suggestion that patients should not credulous the miraculous benefits of product propaganda in those advertisements. Some pharmaceutical companies make unrealistic promises to consumers, especially the medical products of personal health goods and dietary supplements. However, due to weak regulations and immature law system, this kind of unethical business practices on misleading marketing rarely prosecuted in China (Han, 2013). There are obvious loopholes in the legislation and regulation with weak supervision and enforcement related to pharmaceutical advertisement (Biao, 2019).

It is noteworthy that there are high returns in drug sales, which become motivation and driving force for improper advertisement and promotion of medicines, significant influence on interests of consumers. Government needs to formulate practical and feasible policies and regulations for ensure the authenticity and reliability of medicine information for improving medicine advertisement and promotion (Fang, 2017).

Commercial bribery in pharmaceutical industry

It is important to implement the indispensable CSR for curbing commercial bribery which is prevalent in Chinese pharmaceutical industry and brings seriously negative influences on healthcare services and outcomes (Qi & Yinghuan, 2010). Some pharmaceutical corporations offer kickbacks to hospital executives and doctors to promote marketing sales. In the eyes of many patients, some doctors in China are closely connected with prescription drugs abuse, excessive treatment or grey income (Tian et al., 2008). The reputations of Chinese doctors significantly undermined due to the prevalence of organizational bribery and corruption (Tam, 2011).

To some extent, hospital doctors regarded as one of the most corrupt occupational groups in China (Tam, 2011), under the temptation of kickbacks and commissions, some doctors prescribe unnecessary drugs or increase the drug dose for promoting prescription medicines to bring in sales. The unethical and illegal practices breach the code of conduct for doctors and violate professional ethics that not only damage patient's economic, but also bring more terrible consequence that is harm to health of patients due to improper prescription. Meanwhile, the over-prescribing medicines resulted in the excessive and wasteful use of medical resources (De ling, 2003). It is urgent to reconstruct medical professional ethics to put practicing medicine on right track for protecting patients' benefits and control healthcare cost inflation.

Lei (2006) considered that the profit-driven motivation is the root of bribery. It effects on physicians' prescribing attitudes and behaviors and their clinical decisions. Such abominable behaviors fail to achieve CSR and seriously violate law and regulation. It leads to high prices of medicines for patients, accordingly increase healthcare cost and the financial burden, undermine the public trust in doctors, undermine the quality of healthcare public services, sometimes, even make a big difference to the life-and-death consequence of patients. As a result, banning commercial bribery/corruption is crucial for improving CSR for pharmaceutical industry.

Crackdown on corruption and bribery requires the efforts from both pharmaceutical companies and from the government (Rose-Ackerman & Yan, 2014). In addition to the need for pharmaceutical companies to enhance CSR awareness and strengthen self-supervision and self-regulation, China government has realized the seriousness of the commercial bribery and corruption, and has begun to strengthen the relevant legal efforts to suppress such illegal behaviors (Shi et al., 2018).

Environmental protection in pharmaceutical industry

Pharmaceutical factories /manufacturers usually are regarded as heavy polluters to natural environment. China is currently one of the world's largest producers of Active Pharmaceutical Ingredients (APIs) worldwide, occupying 40% of the total their global production in the world (China Pharmaceuticals Online, 2014). The mass production in pharmaceutical industry on such a large scale will inevitably entail a huge risk of environmental contamination, threatening local human beings and nature ecosystem. So there is urgent need to establish effective regulatory system and implementation policy to deal with these problems (Oger, 2009).

Improper discharge of pharmaceutical waste with large pollution emissions would cause seriously adverse effects on ecological environment and human beings (Li, 2014). According to Chang (2008), producing APIs come along the discharge tons of chemical substances, the complex contaminated components into ecosystem results in serious environmental impact. If not properly treated harmful dismissed chemical substances, it will cause irreparable damage to the ecological environment, leading to solid, water, or air contamination. However, some pharmaceutical corporations in China are small and medium-sized enterprises lack of human, material and financial resources, with weak environmental consciousness to improve outdated equipment and technology, for enhancing raw material utilization and reducing waste discharge.

Furthermore, some pharmaceutical companies feel that the cost of dealing with and processing the discharge of pollutants or disposal of harmful substances is far higher than the fines that they need to be faced by regulation and legislation in China. Such a lenient legal situation makes some unethical pharmaceutical manufacturers take advantages of loopholes in lax regulations (Coetsier, Lin, Roig & Touraud, 2006).

Pharmaceutical industry is one of the main consumers of natural resources, which need to take more responsibility to conserve natural resources (Larsson, 2014), and optimizing the energy consumption. There are lots of CSR implementations can be beneficial to environmental protection, like as packaging reduction, material recycling, and eliminate backward manufacturing processes with high energy consumption and low utilization, etc, which can also reduce costs and increase corporate profits. In the meantime, it should be compulsory to properly treat the waste discharge with harmful substances, reducing emission pollution and ecological threat, for a minimum impact into surrounding environment. There is need to introduce energy-saving manufacture technologies and facilities to promote of production efficiency and improve resource utilization rate, to elevate the level of pollution prevention and control.

Pricing and accessibility in pharmaceutical industry

It is an important CSR practice to improve affordability and accessibility of essential medicines and healthcare services. High-pricing medicines and treatments hinders the access of the poor to medicines. Patent medicines are exclusive; the pricing of these patent medicines is not only in terms of its cost, but based on the demand and acceptable of the market, companies with patent rights enjoy the monopolistic statue (Puig-Junoy, 2005). It leads to high pricing of certain medicines. In order to pursue economic benefits, some pharmaceutical companies may raise prices of medicines as high as possible in a market acceptable range, which resulted in the low-income population cannot get the sensible and reasonable healthcare treatment.

The medical industry is an indispensable part of the people's survival, which directly affects the quality of people's life (Moon, 2013), related to the welfare and wellbeing of human beings. It could be one of the most profitable business fields even in the economic recession's periods (Dukes, 2006). Unreasonable prices in pharmaceutical products cause more pressure and burden to medical and healthcare system which leads to the inaccessibility and unaffordability of basic and necessary medicines and treatments, especially to some people amongst disadvantaged groups in developing countries (Perehudoff & Hoen, 2018).

It is universally known as general recognition that everyone has the right access to proper medical services for health, according to the Universal Declaration of Human Rights in the United Nations (1948). Consumers of pharmaceutical industry receive medical treatment as a basic right that cannot denied only due to financial difficulties (Khosla & Hunt, 2009; Dye, 2012). Nowadays, the access to essential medicines and healthcare is regarded as human right (Kessel, 2014). Pharmaceutical industry takes the duty to improve accessibility of medicine products and services, which should be integrated into their business decision-making strategies. The obligation of ensuring access to medicines is thus more than an optional CSR for big pharma companies.

It is one crucial CSR practice to improve accessibility of medicines in pharmaceutical industry, which is extremely complicated and involved in many different stakeholders. For example, pharmaceutical laws and political reforms need to stipulate reasonable price standards; strengthen penalties and restrictions to unreasonable price setting (Leisinger, 2009); and betterment in medical system and drug regulation; encourage R&D in pharmaceutical industries, to improve accessibility for essential medicines to the vulnerable and marginalised groups sustainably from a long-term point of view (Bluestone, Heaton & Lewis, 2002).

The larger pharmaceutical companies tend to be with more powerful to attract talent employees, consolidate research activities, maximize efficiency and gain negotiation power, and so on. Big companies benefit from economies of scale (DiMasi, 2014) with rich resources. Therefore, companies usually have a tendency to merge and acquisitions (M&A) for expanding their scale of products and marketing to increase their profit margins (Yasin et al., 2016), resulted in the aggravated monopoly power. International pharmaceutical enterprise giants rely on abundant capital, advanced technology and managerial expertise, R&D capability, strong market strength, and mastered transnational M&A skill, successfully enter the China. Monopolistic market structure gives pricing power to these top leading pharmaceutical corporations for their patented products, which leads to higher prices to end consumers.

It is reasonable that pharmaceutical companies same as other industries endeavor to produce high-quality products for a better economic performance with economic benefits. However, corporate operations and practices in pharmaceutical industry should not only focus solely on economic interests, and but also should take CSR consideration for human health and the welfare of society as a whole, in order to improve access to essential medicines and healthcare for all people.

Innovations and patents in pharmaceutical industry

The ultimate aim of R&D medicines is to cure diseases. One of the most important CSR is to develop new drugs and medicine treatments with innovative breakthrough, which can effectively alleviate the suffering and pain of patients (Saul, 2005), make a real contribution to unmet medical needs that patients have long sought for (Kaitin, 2019). The major role played by the pharmaceutical companies is in helping human beings to achieve their rights of health, develop innovative medicines and vaccines (Hunt & Khosla, 2010) for achieving previously unattainable medical efficacy, and bringing breakthroughs to many currently incurable diseases.

R&D in medication is a stubbornly time-intensive and technology-intensive process. It has obviously characteristics of high investment, long cycle, high risk and with high return (Caldwell, 2016). Pharmaceutical R&D needs a lengthy, risky, and expensive endeavor (Kaitin, 2019) under high uncertainty and complexity of outcomes. In terms of the guidelines from the Pharmaceutical Research and Manufacturers of America (2010), a new medicine is qualified to put into the market, which must pass through four stages. This process generally takes an average of 15 years including discovery, pilot testing, clinical trials and assessment. Therefore, patented medicines normally sold at high price due to recover the expenses of R&D in the previous stage.

China lags behind in pharmaceutical R&D compared with western countries. Most of domestic pharmaceutical companies in China is Small and medium-sized enterprises (Chu & Liang, 2010), which lack of technological capability and various resources to undertake innovative R&D (Chang-xiao, 2012). In the past few decades, some so-called new medicines in China are actually only with slight modification to ingredients compared to the 'old one', which mostly are near-duplicates of existing ones. These so-called new medicines provided an excuse for sustained high prices (Dukes, 2006), and high margins and returns. Pharmaceutical companies should focus on for truly groundbreaking innovative drugs to fill in the gap of medicines and treatments, rather than slightly modifying existed formulae just for setting higher prices of new patented medicines and gaining more economic benefits.

Pharmaceutical innovations can create value to society to generate improvement in population health (Grimes & Miozzo, 2015), and development of cutting-edge drugs with breakthrough to cure unsolved and incurable diseases which were previously unattainable (Lichtenberg, 2016). The Chinese government should formulate more feasible incentive policy (Shao et al., 2016) for stimulating the development of new drugs, boosting R&D for pioneering innovative drugs to treat currently untreatable or neglected diseases, and more closely match the needs of human beings.

The waste of medical resource/ the appropriate use and disposal of medicines

Reducing waste of medications is one of the paramount objectives for appropriating utilization of finite pharmaceutical resources (Holloway 2011). However, it estimated that over half of all medicines prescribed, sold or dispensed inappropriately (World Health Organization, 2012); more than half of patients fail to take their medicines as directed as prescriptions (WHO 2011). Inappropriate and irrational use of medicines leads to waste. These disused medicines and human waste and excretion disposed inappropriately, resulted in pharmaceutical resource waste and the adverse impact on natural ecosystems. Some pollutants resulted in natural resource contamination and damage, which is very difficult or even never to reverse. When toxic substance enters ecological system, it will need huge workforces and expenditure to eliminate or control of both its negative effects at the time and its after-effects.

The main causes of pharmaceutical waste/squander come from the following two aspects, inappropriate use of medicines and improper disposal of discarded drugs.

On the one hand, irrational medication mainly come from self-treatment and OTC (Over-The-Counter Drug), which is rapidly increasing in recent years (Yuefeng et al., 2012); and over-treatment with over-prescription in general come from doctors for prescription drugs (Nie et al., 2018). Excessive and immoderate Medication resulted in wastage of healthcare resources, which not only brought adverse health impacts to consumers (Royal Pharmaceutical Society, 2014), also brought serious pollution to ecological environment. For example, overused antibiotics lead to drug resistant bacteria (Baye & Sada, 2018). The current emergence of the antimicrobial resistance undermined the effectiveness for sustainable use of medicines (WHO, 2017; Davies, 2013). Medicines should be used more appropriately and judiciously (World Health Organization, 2002), not only from a health perspective, but also for minimizing and reducing unintended adverse impacts to natural environment.

Commercial OTC advertisements tend to exaggerate curative effects, hidden side effects, use undue influence to mislead customers for their sales, which harmful to the public interest and leading to waste. Over-treatment and over-prescription cause by doctor bribery and corruption, due to the great temptation of interests. Because doctors have a vested interest in over-prescribing medications, driven by economic benefits, some profit-motivated doctors are tempted by bribes, to obtain illegal grey income. They do not prescribe medicines unbiasedly in accordance with standard treatment protocols, but prescribe excessive drug dosages and treatment duration (World Health Organization, 2002). The unethical behaviours often result in adverse consequences including wasting medical resources, spiralling costs of healthcare and treatment, bringing huge losses to patients' physical and economic, and so on.

On the other hand, improper disposal of disused or expired medicines considered as an alarming issue is rapidly gaining more and more attention from both of healthcare professionals and consumers in the last decades (Chasler & Subramaniam, 2011), correctly disposal of unused medicines is equally important as rationally utilization of medicines (Kadam et al., 2016). Otherwise, it is harmful to economic, environmental, healthy progress (EEA 2010; Braund et al. 2009; Kümmerer 2008). It is extremely necessary to achieve appropriate disposal of unwanted medicines, for source control of pharmaceutical contamination (Yu et al., 2019), effectively promote and implement advanced disposal methods, and updated protective measures to minimize directly and potentially environmental impacts (West et al. 2014).

In general, Chinese current situation makes CSR implementation more urgent and impendancy. China is under the era of rapid economic development, which leads to many companies focus to maximize their economic interests, and less aware of the important to CSR commitments to their stakeholders.

The above these CSR issues are especially prominent in China where the market system and legal institution for CSR are immature and underdeveloped relatively (Guan & Noronha, 2011), having more challenges with their own characteristics for pharmaceutical companies in China (He, Pu, Zhu & Tang, 2010). It evidently shown that legislation and enforcement was not enough with loose supervision; punishment mechanism to CSR violation are lenient in China. Therefore, some pharmaceutical corporations in China with irresponsible behaviors not fully and successfully achieve CSR (Wang, Xu & Zheng 2011). All these sparked the urgent need to enhance CSR performance of the pharmaceutical industry in China.

CSR violation with questionable and irresponsible business operations and practices in pharmaceutical industry would affect the human health, well-being of people and the quality of living for the general public, which would be faced more serious moral and social condemnation, more severe punishment and higher sanction of the law. As a result, in the recent years, pharmaceutical companies operating is facing more and more supervision and claims from different stakeholder groups than ever before.

2.6 Summary

In the beginning, the existing literature on CSR that is associated with the research presented this chapter, which focused on the detailed description and discussion about some famous theories in CSR academic circles, mainly including stakeholder theory (Freeman, 1984), CSR pyramid theory (Carroll, 1991), Triple Bottom Line approach (Elkington, 1998), and Three-domain CSR model that is evolved from the CSR pyramid (Schwartz and Carroll, 2003).

Then, these significant classic CSR theories brought inspiration for the construction of the CCG model, which considered academic foundation to build the new analytic framework in this thesis. The formation, structure and significance of this CCG model elaborately described and clearly explained. The new CCG framework combined of social, economic and ethical responsibilities; it provides the platform where allows companies to consider their CSR performance from people/individual, organizational and social levels, based on the three perspectives of consumers, companies and governments, with the consideration from public, internal and external stakeholders.

Furthermore, this chapter explicitly justified the CCG model as the main theoretical framework for this study, in which the three dimensions are be equally of importance with same priority, mutual benefit for one another, aimed at generate synergy benefit in a reciprocal way. The purpose of CCG is to achieve coexistence for the common development from the three dimensions simultaneously, in order to achieve CSR on all fronts. Under the CCG model, CSR essential tasks are maximizing synergies and minimizing trade-offs for the three dimensions/pillars without being partial to one over others. The CCG model can be applied by companies and organizations to evaluate and analyze their CSR issues, to improve CSR practices and performance, advance the development of CSR in all respects.

The next, this chapter specifically explained and stated the role and importance of core stakeholder groups for the Chinese pharmaceutical industry, and their interests and interactions with pharmaceutical companies, which have significantly influence on the corporate CSR performance. Then, it presented the different responsibilities and requirements from the internal, external and public essential stakeholders in the Chinese pharmaceutical industry in this thesis. Thereafter, The CSR challenges are addressed from the four aspects, including economic development, traditional social culture, technological advancement, and political system and legal regulations. The challenges have significant impacts on CSR practices in the unique China-targeted business setting. Last but not least, the outstanding main CSR issues in the Chinese pharmaceutical industry depicted in the end of this chapter.

In a nutshell, this chapter presented the conceptual and theoretical framework for analyzing and discussing CSR of the Chinese pharmaceutical industry in this study. The following step is to present the methodology to conduct the research. The next chapter would discuss the overall research philosophy and research methodology used in this research and justifies the research strategy and approach adopted for this study to achieve research's objectives.

3 Methodology

Researchers need to analyze and select the suitable research methodology, address the collecting and analyzing data methods and techniques tailored to undertake this study before conducting the research itself, which is extremely crucial role during the research process, because without it the research could not even begin to carry out, not to mention achieving research aims and objectives.

The purpose of this chapter is to address the research methodology adopted and used in this thesis. It started with the explanation of its philosophical positioning and the research design of this study; followed by a discussion of the sampling strategy, the data collection method and data analysis for conducting this research. At the end of this chapter, describes various protocols of research quality, including validity and reliability, ethical considerations, and the limitations in this research.

3.1 Research philosophy

Philosophical paradigm for this research

Research philosophy involves developing and examining the nature of knowledge itself, how it comes into being and how it transmitted through language (Quinlan et al., 2019). Research paradigms serves as a thinking framework as to how the world is perceived, which guides the behavior of researchers (Wahyuni, 2012). It is the *“basic belief system or world view that guides the investigation”* (p105 Guba & Lincoln, 1982). This research adopted interpretivism as research philosophies.

The research philosophy of interpretivism involved in understanding and interpreting human nature and their varying roles with the different viewpoints and behaviors as social actors (Chetty, 2016), based on their own perceptions and experiences (Ryan, 2018). Interpretivist aims to develop new and deeply interpretations to understand phenomena in a social world, which is very suitable for conducting research related to business and management when the context is complex and unique (Saunders et al., 2016). It is in line with the purpose of this study that is about exploring CSR of pharmaceutical companies operating in China.

Interpretative approach provides the opportunity for the recognition, expression and interpretation of meaning for research topic (Alase, 2017). Interpretivist philosophy is typically for conducting more in-depth investigations on smaller samples when used in qualitative methods (Saunders et al., 2016), which is appropriate for this thesis of analyzing CSR practices of pharmaceutical industry in the Chinese business context. Therefore, this research followed the research philosophy of interpretivism.

Ontology and epistemology are two different aspects when considering a research philosophy (Hughes & Sharrock, 2016). It is necessary to discuss the philosophical positioning of the research by setting out the ontology and epistemology. The follow will discuss the research ontology and epistemology of interpretivism, which are the philosophical foundations with a significant impact on all aspects in the research.

Research ontology of this research

Ontology means the “perspective on the nature of reality” (Glesne, 1999), which is associated with things around us that actually exist (Hudson and Ozanne, 1988). Objectivism and subjectivism specified as two important aspects of ontology. The researcher must make a choice between subjectivism and objectivism.

The position of interpretivism in relation to ontology is subjectivism that capturing meaning is based on social environment and individual experiential accumulation. Interpretivists believe that truth and knowledge are subjective, the reality is multiple and relative, context-specific, not singular or objective, which inextricably linked with social contexts (Hudson and Ozanne, 1988), and shaped by human experiences. From interpretivism perspective, Knowledge and meaning of human behaviors and social phenomenon are subjective, based on personal values and beliefs, which have the traits of being culturally derived and historically situated (Ryan, 2018). This research focused on CSR in the pharmaceutical industry under the unique China-targeted setting where has complicated history background and distinctive cultural characteristics. Therefore, interpretive paradigm is highly appropriate for this study.

Therefore, the goal of interpretivist research is to interpret the human behaviors and social phenomena (Neuman, 2000) in accordance with their own set of meanings or perspectives, which are closely associated with people's experiences (Ryan, 2018), understandings and perceptions (Dieronitou, 2014). Reality is socially constructed and so is constantly changing (Goundar, 2012). The social world is considered as a continuously emerging and changing process created by human beings (Jemielniak & Ciesielska, 2018). It is deeply embedded in the subjectivist vision of social nature. It tends to gain a deep understanding of the complexity of society phenomenon in its unique context (Pham, 2018). Interpretivism believed that people human emotion or action as they interact with the world around them, and that is subjective (Orlikowski and Baroudi, 1991) and socially constructed. Interpretivism studies usually focus on meaning that is not independent of the awareness of individual (Collins, 2010), and may employ multiple collecting data methods in order to reflect different aspects of the research topic, for ensuring obtain meaningful and valuable findings and results.

Interpretivism studies normally support researches focused on the specific topic and considering the given circumstances and participants involved (Alharahsheh & Pius, 2020). This research is socially constructed to ascertain the status quo of CSR in the Chinese pharmaceutical industry, to obtain in-depth knowledge and understandings of the research objective about CSR in this research, based on the consciousness, experience, beliefs, ideas and explanations of interviewees. Interpretivism is adopted which is precisely suitable for this research.

Research epistemology of this research

Epistemology refers to how this reality be captured or be known (Carson et al., 2001), how to come to know the world, which is relates to the process of forming knowledge (Cohen et al., 2007). Epistemology is concerned with how knowledge can be created, derived and acquired (Kant, 2014), and how knowledge is interacted (Scotland, 2012; Kant, 2014), aiming to uncover knowledge to reach reality.

Interpretivism in epistemology considered people to acquire knowledge cannot be separated from their various individual subjective cognition, it involves in explanation influenced by various consciousness, experiences, beliefs of people (Alharahsheh & Pius, 2020). Interpretivists believe that reality and individuals are closely connected, because individual viewpoints of the world inextricably and inseparably linked to their life experiences and backgrounds. It is through social construction to understand and interpret motives, behaviors, meanings, reasons and effects, come from people's subjective experiences within specific locations, times and contexts (Neuman, 2000).

Interpretivists usually use a narrative form of analysis, normally to investigate social phenomena with qualitative methods (Tsang, 2013), which relied on both the trained researcher and the human subject as the instruments flexibly to understand social phenomena, to capture meanings derived from individual's thoughts and viewpoints (Scotland, 2012), to identify patterns and build a theory from the gathered qualitative data. It focuses on studying participants' worldviews, experiences, understandings with the different perspectives (Carson et al., 2001), so collecting data is subjective and socially constructed (Chowdhury, 2014) through a semantic process (Goertz & Mahoney, 2012). It is suitable for this study focused on holistic understanding of the research objective about CSR practices in the Chinese pharmaceutical industry.

Interpretivism is considered as the opposite of positivism (Saunders et al, 2009), and acquires knowledge in this discipline is socially constructed by human beings rather than objectively determined (Neuman, 2000), based on understanding human nature and social phenomenon, analyzing motives, meanings, reasons and other subjective experiences (Johnson and Christensen 2010). Interpretivists try to discover patterns and generate theories from the data collected (Al-Saadi, 2014) in order to gain insight and understanding of social phenomenon and human activities (Aliyu et al., 2015) in context-specific settings. Based on socially constructed multiple realities, it usually generates qualitative data (Rehman & Alharthi, 2016), and normally presents data as descriptive narration with words (Antwi & Hamza, 2015). It is practicable for attaining profound understanding of the research objective about CSR in this study, to explore CSR of pharmaceutical industry under Chinese business environment for this study.

Interpretivists adopt a more subjective and flexible research structure to investigation, which is receptive to capturing data and information through human interactions, and avoid rigid structural frameworks such as in positivist research (Kothari, 2004). This study analyzes the social structured meaning of CSR in the Chinese pharmaceutical industry and for exploring CSR understanding and implementation of pharmaceutical companies operating in China. Therefore, interpretivism with subjectivist and socially constructed vision is adopted in this study.

3.2 Research design

The research design is the overall strategy for planning the research in a coherent and systematic way. It refers to the outline and process of how the research will take place, to choose most suitable methods of finding evidences relevant to the research topic (Bryman and Bell, 2015), for accurately describing and analyzing the values and meanings of observable phenomena.

The propose of a research design is to ensure that the obtained data and information enable researchers to effectively achieve research purposes logically (Leavy, 2017), and get the answers for the research questions as unambiguously as possible. It is necessary to choose appropriate research design based on research purposes and research questions. Accordingly, the purposes of the research should be formulated before developing the design of a research (Strydom, 2013).

Research purpose of this research

Saunders and Lewis (2012) asserted there are three types of research purposes, including explanatory, descriptive and exploratory.

The intention of exploratory studies is the conducted for a problem which was high levels of uncertainty or ignorance, and not well researched before, for researchers to seek new understanding and generate a better perception of research topic, assess phenomena and actions in a new light and lens (Saunders & Lewis, 2012). Therefore, exploratory research develops new concerns for more accurate investigating for a problem (Akhtar, 2016), and explores into new problem areas (Strydom, 2013).

The purpose of descriptive studies is for discovering and describing characteristics, behaviors and patterns (Sreejesh et al., 2014), which intends to identify the specific details of some social phenomenon, social setting or relationship (Salkind, 2006) to develop an accurate description the characteristics of people, cases in a situation.

The target of explanatory studies is to help us to explore a unknown areas that has not been in-depth studied earlier, which ascertain any causal links between factors or variables that pertain to the research problem (Van Wyk, 2012) and to determine effects. Explanatory research aims at developing and testing theory (Thyer, 2009), attempts to understand causality between actions in a particular field of study.

This thesis will be classified as the exploratory study that provide real situation about CSR implementation of the Chinese pharmaceutical industry and healthcare system. Qualitative approach with almost always inductive in nature is frequently used for exploratory studies (Strydom, 2013). More specifically, it is to provide an insight into the CSR issues of pharmaceutical industry under the Chinese business context, and pave the way to improve CSR performance of pharmaceutical companies in China. Currently there is not enough researches in this area; therefore, in the study, the two research questions are to explore what are the prominent CSR issues faced by the pharmaceutical companies operating in China, dissect what is the underlying causes triggered these outstanding CSR issues in the Chinese pharmaceutical industry, in order to fill the gaps.

Research design for this research

Research design is related to discuss qualitative, quantitative, and mixed methods research as three major approaches to gaining knowledge in social science research (Creswel, 2013). Researchers have to decide which approach (quantitative, qualitative or mixed) to use in order to achieve sound and robust study outcomes.

Quantitative research focuses on tests in the form of hypotheses measurement with quantified data and numbers normally (Bryman and Bell, 2011), based on objective reality, and is independent of human experiences, insights and perceptions (Guba and Lincoln, 1994). Quantitative researchers are suitable for conducting research that is of a large sample, and highly structured, and where the goal is to collect and analyze the data into quantitative numbers (Saunders, Lewis and Thornhill, 2012), it might result in more generalized findings with bigger number of respondents (Rowley, 2012). The quantitative approach is not for obtaining in-depth data and information and focusing on a small number of respondents, apparently this kind of research is not appropriate for this study focused on CSR understanding and implementation.

Whereas qualitative approach is considered as a mean to generate results based on non-numerical data collection and analyses (Rowley, 2012), it involved in language description to disclose an essence of the phenomenon (Turale, 2020). It is with the goal of finding significance and understand the underlying reasons of a certain event, and understand the actions, opinions and attitudes of investigated organizations or individuals, usually with specific and accurate data collecting in much greater detail (Willing, 2013). It is based on rich and detailed qualitative data collected, analyzed and interpreted by researchers (Creswell, 2014).

Qualitative analysis is non-number analytical method to get research results (Woods, 2005), get the in-depth answers to reveal the reality and essence of research topics (Borbasi & Jackson 2012); Qualitative research focused on meaning is interpretative and inductive in nature, through the study of viewpoints, experience and explanation from respondents (Bryman and Bell, 2015). It involves in a textual description of the problems instead of a numerical data analysis, usually data collecting and analyzing of qualitative research from a small group of well-chosen respondents.

Qualitative approach used in this study. Because the purpose of this study is to gain a better understanding of CSR status quo to pave the way for enhancing CSR in the Chinese pharmaceutical industry, which seek answers in terms of words rather than numbers. The answers could not be quantified, so the qualitative approach was highly appropriate for this research (Bryman and Bell, 2015).

The nature of research purposes and research questions determine what kind of the research is appropriate (Johnson & Rowlands, 2012). Yin (2014) addressed that qualitative research is for finding research answers about “what”, “who”, “why”, “how”, etc. Because the study is to explore CSR issues faced by pharmaceutical companies in China, furthermore on what is the underlying causes of these CSR issues in the Chinese pharmaceutical industry. It required in-depth answers for “what” questions, consequently, the qualitative research approach is explicitly more applicable to this study, rather than quantitative research.

3.3 Data collection method

According to Saunders, Lewis and Thornhill (2012), data collection method is defined as the techniques and procedures used to obtain data and information (Bryman & Bell, 2015), in order to uncover new information or create better understanding of a topic. Therefore, the right choice of the data collection method can help researchers to conduct investigations more smoothly and collect more rich and valuable data for attaining research purposes (Saunders et al., 2016)

According to Bryman and Bell (2015), some data collection methods are usually utilized in qualitative research as follows: interviews, questionnaire, focus groups, and document analysis, and participant observation, and so on. This study adopted in-depth interviews and document analysis as selected data collection methods, in order to get a broader picture and thicker information for the investigation.

Collected data divided into two types, primary data and secondary data (Saunders et al., 2016). This study adopted the multiple data collection including the primary and the secondary data sources to verify and corroborate data and information, to ensure validity and reliability of the research findings and outcomes.

Primary data resources refer to first-hand data and information that acquired by the researcher personally for the specific research purpose with the research problems at hand (Hox & Boeije, 2005). Collecting primary data normally is more costly and time-consuming. Nevertheless, it is tailor-made for the ongoing study to get up-to-date data and information for the research objectives through researcher's personal direct experience (Bryman & Bell, 2015).

Secondary data resources refer to gather data and information from already existing sources (Johnston, 2017), which originally collected for some other researches and purposes, and collected by others, without the direct involvement of participants and investigation process (Bowen, 2009). The secondary data obtained from the different sources to support researcher's research, for example, document analysis including from books, journals, newspapers articles, websites, etc. (Saunders et al., 2016).

In short, there is no perfect data collection method without any limitation. However, different methods can be used together to complement each other's shortcomings. Triangulation means using two or more approach to data collection for avoiding the potential shortcomings of single method (Oliver-Hoyo & Allen, 2006), which makes the research more reliable, credibility and effective (Berg, 2007). Triangulation is a useful and beneficial method to reduce the impacts of potential bias, based on more than one approach of data acquisition, to achieve more accuracy and effectiveness outcome of study under cross-referenced multiple sources.

This study adopted both interviews as primary data source and document analysis as secondary data source, in order to create an as reliable and meaningful study as possible. These two data collection methods in this qualitative research presented and discussed in detail as below.

3.3.1 In-depth interviews as the primary data collection method

This section discusses the use of interviews to collect primary data for this research (Saunders et al., 2007). Interviews usually are the typical method of data collection for qualitative research, widely used for collecting the qualitative data (Rowley, 2012). During interviewing, the respondents answer a series of questions, it is more deeply and flexibly to acquire data with potentials that overcome the poor response rates of questionnaire survey (Creswell, 2012). It will be an adequate approach to conduct an in-depth study focusing on a small number of respondents (Saunders et al., 2012), and suitable for obtaining more in-depth information in detail and gain concrete data of participant thoughts, attitudes, motives and actions (Kendall, 2008), which meet the needs this thesis for study CSR in Chinese pharmaceutical industry.

There are numbers of strengths of interview method for collecting data, which make it become the most common method of data collection in qualitative research (Grunig, 2008). First, it is an excellent way to gather detailed data to acquire and understand individual viewpoints and attitudes to research topic (Yin, 2015). Second, it provides the good opportunity for respondents' freely to express and elaborate their thoughts and perceptions in detail (Ringdal, 2013). Third, it can capture non-verbal reactions of respondents including body language during one-to-one face-to-face interviews.

At the same time, interviews to collect data also has some shortcomings (Queirós et al., 2017). First, due to the constraint of time and cost (Manser & Mitchell, 2012), it is time-consuming and costly that resulted in one-to-one in-depth interviews normally focused on the limited and small sample size of interviews. Second, it is the relatively labor-intensive procedure for interviews, including design and create interview guide, determine sampling standard, recruit respondents, conduct and transcribe interviews, which all need to be done even before coding begins. Third, because it is subjectivity, respondents with different values and personality may probably affect data collecting, due to individual subjectivity, emotion and mood, even ambience and atmosphere of surrounding environment during interviews (Jamshed, 2014). Last, it is the needs of time, skills and often resources to build proper rapport relationship with respondents, which would facilitate free and frank responses and elicit pertinent and valuable data and information from interviewees.

Interviews are classified into three categories: structured interviews, semi-structured interviews, and unstructured interviews (Saunders et al., 2016).

Structured interviews embrace the question list and guidance that is in a predefined sequence. Regardless of the respondents' preference, the interview questions were fixed to keep the designed direction of interviews on research topics (Johannessen, Tufte and Kristoffersen, 2010). It is considered as a data collection strategy normally used to collect data for quantitative research (Saunders et al., 2016).

Semi-structured interviews are used extensively in research, containing the preset open-ended interview questions (Jamshed, 2014). However, researchers not only can make necessary adjustments flexibly depended on the reaction of respondents in actual situation, but also can change the sequence of interview questions, and add extensional questions, which have no fixed requirements like structured interviews (DiCicco-Bloom & Crabtree, 2006).

Unstructured interviews are often conducted in a 'conversational' way, and without predefined interview questions. Participants' responses in this way are not directed to any specific direction along a fixed path, but only one general discussion related to research topics (Yin, 2014). Unstructured interviews allow respondents to express in their own ways and paces, with minimal guide on respondents' responses (Corbin & Morse, 2003). It is an informal, conversational interview, without the planned set of interview questions that have been prepared before the interview.

In this research, for effectively and efficiently use of interview time, interview guides with open-ended questions are designed in advance, to elicit detailed information from respondents, and keep interviews on track of the desired direction for gathering data systematically and comprehensively (DiCicco-Bloom & Crabtree, 2006). Open-ended questions are not like the close-ended questions that only need to answer yes or no. Open-ended questions require more than one-word answers, which normally need answers with a few sentences or even something longer such as a speech and paragraph (Reja et al., 2003). It focuses on collecting participants' views, attitudes, experiences, and goes in different directions according to their responses (Seidman, 2006), to obtain impactful and valuable data relevant to the research topic.

Semi-structured interviews as primary data collection method adopted in this thesis, A semi-structured interview is normally with designed open-ended questions that are prepared ahead of time (Bryman & Bell, 2015). The open-ended interview questions have a wide range that is around a certain topic with flexibility and adaptability (King & Horrocks, 2010) where participants express and speak out their viewpoints freely and describe their thoughts comfortably (Yin, 2014), to gain insight into respondents' perceptions, values, expectations and experiences surrounding CSR in this research.

It is a two-way communication way that spontaneously raises follow-up questions to draw out further and more specific data, depending on the respondents' answers and responses to adjust the direction of talking topic (Barnham, 2015). For example, the researcher can omit some questions that the respondents would not like to answer; ask additional or extensional questions that respondents have interests to answer or have rich experiences about it; and change the sequence of the questions in terms of the interviewees' preferences, etc. In this way, the respondents have more freedom and more comfortable to speak out the real attitudes, opinion, motives and actions at ease. It is more likely that obtain the deeper information (Rowley, 2012).

This research is congruent with the use of semi-structured interviews with interview guide of open-ended questions. Bryman and Bell (2015) addressed interviews focus on developing a deep understanding of the complexity to the actions, opinions and attitudes, which is well appropriate to investigate CSR in this research. The purpose of this thesis is exploring the contemporary CSR topic in the real-life context of the Chinese pharmaceutical industry. Therefore, it is a highly suitable method to gather the primary data regarding the CSR practices and performances for this thesis.

3.3.2 Document analysis as the secondary data collection method

Secondary data gathering in this research is from document content analysis (Bell and Bryman, 2007), which collect data from the existing documentary evidences, to get the widespread textual data related to research topics (Collis and Hussey, 2013). It aims to identify and extract the essential information of document contents, and to unearth the hidden information of narrative materials, for predicting the tendency and developing direction about the investigated subjects (Saunders et al., 2012).

Content analysis used to analyze text focuses on the contents of recorded data and information (Mayring, 2004). It is highly flexible that researchers can conduct content analysis to get manifest or latent semantic information (Graneheim et al., 2017) from document resources at anywhere and anytime. Researchers could make full use of the existed literature, beyond the constraints of time and space to obtain resources (Bryman & Bell, 2015). In this research, it helps the researcher to gather widespread and historical documental materials with broad coverage, to track development and change of CSR in the Chinese pharmaceutical and healthcare industry.

Documents is manageable and practical resources, which is considered accessible sources of data in a variety of forms. It is usually more cost-efficient and time-saving than other way of gathering data. In this study, collected secondary resource mainly come from internet webs, public sources, such as, literature books, articles, essays and journals, and company reports, etc. Document content analysis is a great useful and effective way of gathering data, which suitable for this research by means of the textual interpretation as secondary data collection method, for developing a depth and extensive understanding of perceiving and implementing CSR for this research.

Document analysis is invaluable for purpose of triangulation to breed credibility and corroborate findings. Triangulation refers to multiple methods used in same research, which means more than one data collection method for the same topic in the same research, for complementation of advantage combination (Collis and Hussey, 2013). With the purpose of convergence and corroboration of gathered data and information, triangulation provides multiple perspectives and instruments to collect data for one specific research topic (Carter et al., 2014), corroborates findings across data sets to reduce the impact of potential bias, and provides a confluence of evidence to breed credibility. Therefore, it is beneficial in providing more holistic and comprehensive data, for enhancing understand of studied phenomena, as well as obtaining valuable research findings (Bekhet & Zauszniewski, 2012).

Secondary data from document content analysis gathered for triangulation purposes, to support and reinforce research as complement to other data collection methods. Triangulations can strengthen the reliability of study results (Graue, 2015), based on the mutual checking of data, and expanding perspectives about the studied subject. Document content analysis is well-suited to analyze the multifaceted and sensitive phenomena of CSR, which could collect data as complementary to interviews in this research, to ensure more valid and reliable research outcomes (Cooper & Schindler, 2006). Therefore, it is a suitable method as secondary data source to get the data about studying CSR for this thesis.

3.4 Data collection procedure

3.4.1 Sample strategy

Sampling refers to the action or process of selecting the representatives from the target population (McLeod, 2014). Sampling methods mainly classified into two ways, probability sampling and non-probability sampling (Bryman and Bell, 2015).

Probability sampling is a random sample selection, which means that everyone in the target population has the same chance of being selected (Etikan & Bala, 2017). Non-probabilistic sampling indicates that the sampling choosing does not randomly occur, which means that some people of the target population are more likely to be selected than others (Saunders et al., 2016). In this way, the selection of sample is usually depending on researcher's discretion and research purposes, it involves in the subjective judgment of researchers.

The type of non-probability sampling used in this research included convenience sampling, purposive sampling and snowball sampling.

Convenience sampling is one of the type non-probability samplings, which refers to the researcher choose sample according to getting convenient access to potential participants (Bryman and Bell, 2011). In this way, because they are easy to recruit, the process of convenience sampling is relatively cost-efficient and time-saving.

Purposive sampling is a kind of non-probability technique with specific requirements for choosing the particular type of samples with similar characteristics (Kumar, 2014) in order to guarantee the quality of collected data. Purposive sampling is considered 'purposive' with judgmental criteria for sample selection designed by the researcher, for selecting the samples who most likely to provide effective and valuable data and pertinent information for research objectives (Suzuki et al., 2007).

Snowball sampling is a sampling technique in which initial participants could provide referrals to recruit more required eligible respondents. In the beginning, researchers identify some people who qualifies for inclusion in the research, and then ask them to recommend other potential respondents who also meet the sampling criteria of the research (Handcock & Gile, 2011). Snowball sampling is especially useful for trying to access to targeting specific groups who are hard to reach and contact.

Choosing samples for the study is based on non-probability sampling. It is necessary to select samples that suitable to answer research questions (Seawright and Gerring, 2008). The respondents must precisely fit in with the certain sample selection criteria (Saunders et al., 2012). For obtaining valuable and meaningful research findings, the qualification and eligibility of participants are important to collect pertinent and valid data. Moreover, sometimes, a small number of elaborately chosen respondents were more likely to provide in-depth insights and impactful opinions during interviews. At the same time, the researcher must have access for contact and communication with the participants. The selected samples of respondents need to be available for taking part in the investigation. Non-probability sampling is suitable for qualitative research (Cooper et al., 2006), to gathering data for study CSR in this thesis.

3.4.2 Sample selection

Selection of the companies involved in the research

In this research, the choice of companies related to this research are all typical top leading representative pharmaceutical companies. The interview respondents all are working for these leading pharmaceuticals, and have more opportunities to get better perception of CSR in the Chinese pharmaceutical industry.

There are some certain sampling criteria for selecting pharmaceutical companies in the research: (1) these pharmaceutical companies must proactively undertake CSR in business operations and activities. (2) These top pharmaceutical companies play a leading role position in the Chinese pharmaceutical industry. (3) These selective pharmaceutical companies must have at least one or more subsidiaries operating business activities in China. (4) Finally, there are accesses to contact the managers and executives worked in the selected pharmaceutical companies, who are agree to cooperate in the investigation and answer questions during interviews.

Quite a few pharmaceutical companies meet such requirements as above, in order to facilitate the study, after careful consideration, the researcher chose to narrow down the chosen companies to focus on six large powerful leading pharmaceutical companies operating in China for this study. These selected companies comprised two worldwide top-ten giant pharmaceutical MNCs (Multinational Corporations) from western countries that are foreign enterprises operating in China; four nationwide top-ten pharmaceutical companies, including two of them are state-owned or state-controlled enterprises, the other two are domestic private enterprises in China.

Choosing these companies with different ownership can get holistic perspectives related to the current CSR status quo of pharmaceutical enterprises in China. All the selected companies are top-notch leading companies in China. These companies have relatively advanced R&D levels, high production technology and strong market capabilities. They pay more attention to CSR practices in the corporate operations and have a huge influence power on the entire Chinese pharmaceutical industry. The chosen participants for interviews are all middle-level or senior managers and executives working for these chosen six companies, not only have a broader and deeper vision to perceive CSR, but also have more opportunities to participate in CSR activities and understand the importance of CSR in the pharmaceutical industry.

Because the content of the interviews maybe involves the critical comments about CSR negative information or sensitive subject about CSR scandals, the companies have requested confidentiality and anonymity due to the sensitivity of the research topic. According to the requirements, the six companies separately are coded and named the company A, B, C, D, E and F. the profiles of the chosen six leading top pharmaceutical companies in this thesis presented in appendix 3.

Foreign enterprises	Company A, Company B
State-owned or state-controlled enterprises	Company C, Company D
Domestic private enterprises	Company E, Company F

Table 3.1: The ownership of the selected pharmaceutical companies in China

Selection of the respondents for interviews

Purposive sampling used in this research, to ensure the participants of interviews must meet certain requirements and standards in order to collect more pertinent and valuable data and information for research topic (Bryman, 2012).

The respondents in the interviews need to meet certain criteria: (1) they must work for one of the six chosen top pharmaceutical companies operating in China; (2) The respondents should have rich knowledge and experience of CSR field in the Chinese pharmaceutical business context. (3) They must be executives or managers who are working related to CSR or familiar with CSR practices in the Chinese pharmaceutical industry; (4) they are willing to take part in the interviews for CSR study. Only people who meet these sampling selection criteria can participate in the interviews, which is important for obtaining reliable and valuable information for this research.

The 18 relevant respondents come from the six chosen pharmaceutical companies. Each company has three respondents who separately work for the three different departments: HR department, R&D department and marketing department. These respondents from different departments with different job roles make them perceive and interpret CSR from different standpoints. The following table presents/describes the general situation and background of respondents/interviewees in interviews.

Interviewee (Code name)	Working company	working department	Gender	Interview date and Duration	Interview conducted
Respondent 1 (R1)	Company A	HR	Male	12/08/2018: 68 minutes	Face-to-Face
Respondent 2 (R2)	Company A	Marketing	Male	28/03/2018: 52 minutes	Skype
Respondent 3 (R3)	Company A	D&R	Female	01/09/2018: 75 minutes	Face-to-Face
Respondent 4 (R4)	Company B	HR	Male	08/06/2018: 83 minutes	Face-to-Face
Respondent 5 (R5)	Company B	Marketing	Female	26/12/2017: 56 minutes	Face-to-Face
Respondent 6 (R6)	Company B	D&R	Male	30/05/2018: 58 minutes	Face-to-Face
Respondent 7 (R7)	Company C	HR	Male	21/05/2018: 62 minutes	Face-to-Face
Respondent 8 (R8)	Company C	Marketing	Male	29/12/2019: 89 minutes	Face-to-Face
Respondent 9 (R9)	Company C	D&R	Male	02/10/2018: 47 minutes	Wechat
Respondent 10 (R10)	Company D	HR	Female	23/08/2018: 92 minutes	Face-to-Face
Respondent 11 (R11)	Company D	Marketing	Male	17/03/2019: 65 minutes	Wechat
Respondent 12 (R12)	Company D	D&R	Male	23/09/2019: 57 minutes	Skype
Respondent 13 (R13)	Company E	HR	Male	05/01/2018: 69 minutes	Face-to-Face
Respondent 14 (R14)	Company E	Marketing	Female	09/08/2018: 81 minutes	Face-to-Face
Respondent 15 (R15)	Company E	D&R	Male	31/02/2019: 64 minutes	Skype
Respondent 16 (R16)	Company F	HR	Female	16/05/2019: 53 minutes	Wechat
Respondent 17 (R17)	Company F	Marketing	Male	28/12/2018: 86 minutes	Face to face
Respondent 18 (R18)	Company F	D&R	Male	01/09/2018: 75 minutes	Face to face

Table 3.2: List of interviewees for this study and their associated background

Choosing samples is important in facilitating the research process to guarantee the quality of collected data and information. The researcher should justify the reasons why these respondents be chosen (Bryman and Bell, 2015). The following provides further justification for the choice of these respondents.

Firstly, the participants are chosen according to their knowledge, perception and experience of CSR. Interviewees are middle or senior managers and executives with abundant working experiences about CSR field and have various opportunities involved in different CSR practices and activities. They could obtain more deeply understanding and implementation of CSR in the Chinese pharmaceutical industry, which can provide impactful insights related to this research topic, and make the collected data richer and more pertinent for this research.

Secondly, those selected respondents work for the different departments, at least in managerial or specialist level positions, and have different job roles and face various business operations related to different CSR practices of pharmaceutical companies, who can provide rich experience and perception of CSR from their working positions. Gathering data from multiple perspectives and different working departments, these selected respondents can provide broader and deeper viewpoints of CSR practices, which contribute to collect all-round and multifaceted data, for obtaining a more wide-ranging holistic understanding and more profound insight about CSR status quos in the Chinese pharmaceutical industry.

Thirdly, the sample size in this research is restricted to small number of people who are highly representative. As that mentioned before in the research design, unlike quantitative research, qualitative sampling is often with the aim of representing small, focused samples of respondents, based on a small but highly and precisely validated samples (Creswell & Creswell, 2017). The 18 respondents for interviews in this study are a relatively small sample size. They elaborately were chosen out from targeted population and are highly accurately to fit in with sample selection criteria, in order to acquire more profound viewpoints, pertinent data and valuable information for the research objectives (Björklund and Paulsson, 2014). They represent small, focused samples of the participants and are highly appropriate to participate in this research, especially when collecting data based on language rather than numbers, for attaining the vital data and critical information for research purpose under the specific contexts and settings (Reid, 1996). It could get more in-depth findings and valuable results in a qualitative way.

Lastly, it also is important to consider the limitation of time and cost, the constraint of human and material resources available for this CSR research, and so on (Saunders & Lewis, 2012), which also determines the scope of the investigation and the number of the interviewees.

3.4.3 Recruiting interviewees

Convenience sampling method applied in this research (Noy, 2008). Several of the researcher's friends is familiar with some potential respondents, who are willing to introduce these eligible respondents to the researcher for the interviews, because of introduced by acquaintances, it is easier to win the respondent's trust and help for achieving more harmonious communication and cooperation. Therefore, some initial participants obtained from the referrals of the researcher's friends, the researcher is keeping in touch with these eligible respondents by telephone, WeChat and email.

Snowballing sampling strategy also is implemented for recruiting participants (Rapley, 2014). Some of the initial participants are willing to recommend suitable candidates for interviews. After building rapport relationship with the initial participants, who are happy to recommend their acquaintances, friends, peers, colleagues to interviews, it led to snowball effects, which make more potential participants becoming available. For expanding of the snowball, the researcher makes great efforts to build positive relationships with each respondent, then obtain access to contact and communicate with more potential respondents. For example, one of interviewees proactively asked the researcher if need to interview his peers in their company; and another one even recommends his friends who work in other MNCs operating in China. In this way, the researcher could recruit enough eligible and qualified respondents for this research.

Purposive sampling technique is adopted for ensuring quality of the gathering data. Collecting qualitative data and information through interviews highly rely on individual knowledge and experience of the interviewees related to the research topics (Kvale & Brinkmann, 2009). These recommended potential respondents need to meet the sampling standards and criteria. The researcher keeps in contact with these potential participants via email, WeChat and phone calls before the interviews, for identifying the qualification and eligibility of interviewees for this research.

This recruitment process is to get access to contact and familiarity with the potential participants, in this way, to ensure respondents are highly fit in the requirements of sampling criteria, and represent the targeted population to guarantee the quality and reliability of data. Not all of the contacted potential respondents meet the sampling selection criteria of this study, 18 out of 26 persons are qualified and completed the interviews. Therefore, the result is the 18 respondents from the six chosen leading pharmaceutical companies; each company has three interviewees who are working separately for the three different departments: HR department, R&D department and marketing department. The interviewees come from different working departments, gathering data based on multiple perspectives, which could acquire the broader and deeper insight and more holistic understanding of CSR practices for this research topic, to ensure more accuracy and validity of the collected data and information.

After the dissertation is completed and assessed, the final thesis will provide for all of interviewees. The research is to explore CSR in the Chinese pharmaceutical industry, for helping managers and executives of pharmaceutical companies to improve CSR perception and implementation for corporate long-term progress and development in Chinese business context. Therefore, the research outcomes would be ideally useful and benefit for the working and undertaking of these participants.

3.4.4 Conducting interviews

In this study, each in-depth interview intends to last around between 50-90 minutes. Respondents are controlled between 15 and 20. A small number of respondents are elaborately chosen out from targeted population who are highly precise to fit in with sample selection criteria, which more likely to get in-depth insights and perspectives, and the ratio of repeated invalid answers would reduce. The guide of open-ended interview questions would be found in the appendix 4 of the thesis.

Before the interview, the interviewees will receive emails or phone calls about what kind of questions would discuss, and the explanation of interview procedure as well as the relevant academic terms, to be familiar with the interview contents in advance. Some participants maybe are unfamiliar with some relevant terminologies, such as CSR pyramid, sustainable development, stakeholder theory and TBL, etc. In order to reinforce understandings of the research topic, before interviews, the researcher will provide some background information and interview questions for all participants in a simple and easy understandable way. With these preparations, the participants can understand the interview questions more clearly and have time to think ahead of how to answer them for the upcoming interviews. The research makes efforts to establish good rapport with respondents (Opie, 2004), to elicit the more valuable and impactful information, for making the interview more effective and efficient.

Prior to interviews, each participant would receive and sign a Participant Information Sheet and Informed Consent Form via email, which inform the participants about the outline the interview process, provide with the anonymity promised by the researcher and the voluntary nature of their participation, etc. Participants' Information Sheet and Consent Form presented in appendix 1 and 2 in this thesis.

During the interview, all the respondents' interviews separately at different times, and the semi-structured one-to-one interviews recorded and transcribed. There are no video recordings made except audio recordings under interviewee's permission. Interviews are conducted in varied duration ranged from 50 to 90 minutes according to the wishes of the interviewees. In order to use time more efficiently, the semi-structured interviews with designed open-ended questions keep interviews on the track following the research objectives to get as rich and in-depth data as possible.

This research involved in CSR issues that could be sensitive to both the individual participants and their companies. Interviews need to handle carefully and delicately. Reassurances would be given that the data collected must remain anonymous; as well as any individual information of respondents remaining confidential. These are also helpful to reassure the participants for eliciting honest responses and answers during the interviews, obtaining more pertinent and valuable information.

Researcher make efforts to create comfortable and friendly environment to conduct the interviews, controlling of interview atmosphere in a relaxed manner that would facilitate free and frank responses, and allow respondents to express their thoughts freely (Cohen et al, 2007). Furthermore, the interviewees have the right and free to discontinue from the research at any time during the interviews without any reason and repercussion.

Because the target respondents all work for the pharmaceutical companies operating in China, so the main location of conducting interviews is in China. The formal face-to-face one-to-one interviews in this research commonly arranged in a public place, such as a cafeteria, restaurant or hotel lobby according to interviewee's preferences. It made the respondents more convenient and flexible to give the interviews. To find some place made respondents relaxed freely to express his/her own real opinions, insight, knowledge, experience and expectation about CSR during interviews at ease. Nevertheless, no arranging interviews on the places in where interviewees work for, such as company's offices or workplaces, in order to maintain confidentiality.

The one-to one interviews in the study can be divided in two categories, the face-to-face interviews and internet interviews. Interviews either via internet tools or face-to-face in person are both depend on the availabilities and preferences of participants. Some respondents may prefer internet interviews, such as, Skype and WeChat, etc. Because it is more convenient, and are not subject to geographical restrictions, and financial and time limitations, in this way, the researcher could conduct long-distance interviews online via internet in the UK when the interviewees are in China. WeChat for video calling on the Internet is one of the most popular Chinese communication applications, which has the similar functions with WhatsApp and Skype.

Indeed, the online interviews provided some benefits and conveniences for both researcher and participants, which are more efficient and flexible compared to face-to-face ones. However, researchers intended to achieve face-to-face interviews as more as possible, because in this way, researchers can not only collect language information, but also get more latent and deep meanings through the body language and facial expression of interviewees as auxiliary to collect information (Ismail, 2017).

After the interviews, due to the limited time of interviews, sometimes, unavoidably there are some required information left out, omissions, or new problems arising in the analysis of data. In order to compensate for the shortages, the researcher keeps in contact with the respondents after interviews by emails and phone calls for getting additional or supplementary data. Even the follow-up interviews could undertake via internet if necessary. These Interviewees are normally willing to use these kinds of online way that is more convenient and flexible to provide supplementary information, and consequently the reliability and validity of data collection are improved.

Specifically, the practical benefits for participants are that they can get access to the research outcomes about an in-depth and detailed analysis of CSR issues/concerns faced by pharmaceutical companies in China; and elaborately discuss the underlying reasons triggered these CSR issues in the pharmaceutical industry. The research is involved in CSR values, roles and influences to pharmaceutical companies operating in China, which could be extremely valuable and interesting to these respondents.

After the dissertation is completed and assessed, the final thesis is provided for all of the respondents. The research purpose is to present comprehensive landscape of CSR status quo for paving the way to improve CSR practice and performance with consideration of stakeholders in the Chinese pharmaceutical industry. Therefore, the research outcomes will be useful to participants' professional careers and benefit for interviewees' undertaking and working to their own and their companies.

3.5 Data Analysis

3.5.1 Data analysis approach

Data analysis in research (Kumar, 2019) is the process of inspecting, rearranging and transforming, generalizing data logically and sequentially, in order to extract useful information to obtain meaningful findings and valuable outcomes. It is through systematic analysis, applying logical techniques to describe, condense, evaluate and abstract the needed data (Dudovskiy, 2016) to draw appropriate conclusions.

There are three different types of data analysis approaches. There is a basic obvious distinction between inductive and deductive data analysis (Azungah, 2018), or mixed use of the two in one research considered as abductive data analysis. Accordingly, deductive, inductive and abductive reasoning approach is the three commonly used approaches for research development (Saunders et al., 2016).

On the one hand, the inductive approach is to obtain understanding about causes and meanings of humans' actions and activities (Saunders & Lewis, 2012). It further emphasized by Merriam and Tisdell (2016) who described that induction is used to draw conclusions (Göttfert, 2015), which starts with reality to explore a phenomenon for forming concepts and developing theories usually based on gathering qualitative data in the field. Inductive reasoning approach does not involve in setting and testing hypothesis (Wilson, J., 2010). The purpose of inductive reasoning is to summarize and establish theories based on collecting data (Saunders et al., 2016).

On the other hand, as a counterpart to inductive approach, the deductive approach involved in a hypothesis that is then tested with data. It usually refers to explain the causal relationship between theory and research variables. Deductive reasoning focuses on measuring and testing hypotheses based on collecting quantitative data to see if the hypotheses are confirmed or rejected (Creswell, 2014). Reasoning deductively is testing an existing theory, instead of developing a new theory like as inductive analysis based on gathered data (Soiferman, 2010), which is a process of gaining knowledge based on previous theory and philosophy (Joyner et al., 2018).

The third research approach referred to as abductive approach, which is seen as a mix combination both deduction and induction, as a mix of the two above-presented approaches (Ghauri et al., 2020), moving back and forth between theory and data, by taking an alternating inductive and deductive perspective. Abductive approach is exploring and explaining phenomenon and pattern in order to generate a new one or revise an existing theory, and then find corresponding data to verify and corroborate them (Saunders et al., 2016). It described as an approach that used in situations of uncertainty (Brinkmann and Kvale, 2015).

Inductive approach means to identify patterns and conceptual framework to build a theory, to analyze and discuss phenomenon that can develop new theories based on collecting qualitative data (Vaivio, 2007). Merriam and Tisdell (2016) described the inductive research approach commonly suitable for qualitative research, especially when existing literature about research topic is limited, or this study for controversial topic without unified defined conceptions (Crowther and Lancaster 2012).

Inductive reasoning approach is to organize, extract and summarize collected data, which aimed to generate new knowledge for interpretations of the meanings to the studied events and phenomena related to humans (Crowther and Lancaster 2012). The existing literature about studying and exploring CSR in Chinese pharmaceutical industry is scantiness and scarcity. This thesis focused on the ill-defined, complex, controversial CSR of pharmaceutical companies under the Chinese unique business context, which based on analyzing qualitative data and information, and the primary data source from in-depth interviews and the secondary data source from document content analysis, in order to study CSR practices in Chinese pharmaceutical industry. Therefore, the inductive approach is appropriate for this thesis.

As mentioned earlier, the opposite to a large number of sample size, collecting and analyzing data in inductive research process are usually from respondents with small sample size which are highly representative, and elaborately are chosen out from the targeted population. It is beneficial to get more accurate in-depth findings and results for research questions in a qualitative way (Easterby-Smith et al. 2008). Therefore, inductive reasoning approach is applied in this research, which allowed the study to keep a certain extent of flexibility with open-mind insights (Goddard & Melville, 2004). This thesis focuses on exploring CSR implementation based on qualitative data from interviews, which is relatively subjective from individual attitudes, thoughts, opinions and experiences (Babbie, E. R, 2010) to achieve the research purpose. So, it is very appropriate to adopted inductive reasoning as data analysis method in this study.

Additionally, the choice of data input process method is dependent on the available funds and time, the size of the investigation, and researchers' inclination, experience and expertise (Basit, 2003). This research adopts manual data entry and processing. There are some advantages of manual data entry and data processing and analysis. Firstly, the researcher can have control over categories, coding, and keep records by hand, put each one coding in place with increased oversight. Secondly, when faced some sophisticated and latent data with subtle linguistic analysis under complicated social background, the pattern and connection of collected data hard to track in an automated way, the researcher might need to keep track of them personally. Thirdly, manual data processing can ensure the quality of data analysis with a high level of discernment and integrity, in contrast to automated data processing. Especially when data inputting and processing involved in human sensible detail cases and scenarios, sometimes machine is unable to distinguish right from wrong.

It is not always necessary to use data process software for every research. Manual data analysis processes are perfectly suitable for small-scale projects (Wicks, 2017). Even though automated software is faster than manual one to save time, manual data process is capable of being more accurate and percise. There are always some certain situations where speed is not most important. When the collected information is unstructured and complex, that need a high degree of identification and verification, the manual data process may be the better option. Moreover, it can be an unwanted hassle and take much time to be acquainted with new software applications package for processing the qualitative data electronically (Basit, 2003). If the researcher is accustomed to manual data process and analysis, it can save training time to use the automated application software for processing qualitative data electronically.

3.5.2 Data analysis process/procedure

Saunders, et al (2012) addressed it is important to be careful and thoughtful when analyzing qualitative data from the in-depth interviews, which need to be interpreted, measured and presented collected data in a clear and structured way. The process and procedure of data analysis focus on making sense out of data and information (Creswell, 2009, p.183). It involves in analyzing the collected data from participants, in order to develop new explanation, build new structure framework of research topic, form new theoretical model for understanding and interpretation of the people and social phenomena under investigation (Creswell, 2009). There are five interrelated steps for analyzing collected data in qualitative research. In this research, the data analysis is based on multiple data sources, the first-hand data is from the interviews, the second-hand data is from existing literature and document.

Qualitative data analysis is a complex and challenging part of the research process, which is an analytical approach for the description and interpretation of textual data, the systematic process of coding, and the identification of themes, categories and patterns (Assarroudi et al., 2018). Bryman and Bell (2012) described the qualitative data as, *“an attractive nuisance, because the attractiveness of its richness but the difficulty of finding analytic paths through that richness”* (pp. 571). The qualitative data analysis encompasses a complicate process, and divided into five steps: data organization and preparation; data condensation and reduction; data coding and categorizing; display and present data, and drawing conclusion based on the data. The subsections below explained and discussed these steps in detail.

The first step refers to data organization and preparation of the raw and rough data for analysis, which involved in recording and transcription of the interview data into text for this research (Gale et al., 2013). Transcribing the audio recordings from the interviews would be completed shortly after the interviews finished (Assarroudi et al., 2018). Moreover, the participants will have the access to the transcripts of their own interview, to check whether there is some missing or misunderstood, and to provide added information for supplement or amendment, to make the collected data more authentically and reliably.

The second step is data condensation and reduction. Initial burgeon of the research findings gradually develops and takes shape, potential new perception for research outcome starts to blossom within this stage. This is the process included simplifying, selecting the useful and valuable transcriptions. It needs reading through all the collected information and data to obtain an overall impression (Creswell, 2009), for compression and extraction of the information and data that relevant to the research topic, as well as remove and eliminate the unnecessary and irrelevant information.

And then, translate the relevant and associated data and information into English for preparation to organize, categorize, analyze, interpret, and report them in the thesis. All interviewees in this study have at least a master's degree and can speak both English and Chinese. However, they almost are all native Chinese speakers same as the researcher, in order to be more relaxed, convenient and freer to express and communicate, Chinese mandarin is used as the main language during the interviews.

The third steps of the qualitative data analysis involve data coding and categorizing, which identify and classify the collected information and data in a meaningful manner, to make sense the unstructured data, prepared for the subsequent data explanation and analysis to obtain valuable and worthwhile research outcome (Creswell, 2009). In this way, the researcher classifies and organizes these collected data, the key and repeated words became codes for further analysis; decide which codes are the most meaningful and valuable, group several codes together to create the categories, and consider connections among these categories. This step is crucial and essential for researcher to successfully obtain research findings and answers research questions in this study with new perception and concepts (Miles et al., 1994; Saunders & Lewis, 2012). Comparing the previous step, the step is tougher because it is need to extract and conceptualize the collected data for research analysis (Creswell, 2009).

The fourth step for display, present and interpret the data that is how to describe and analyze the established categories, how they interconnect to each other; and how to interpret and make the meaning of the data. Data display is to develop explanations and understanding the collected data and information (Lathlean, 2006). Interpretation of qualitative data analysis is labor-intensive and time-consuming activities (Burnard, 2006). Interview transcripts are scattered and only provide a descriptive language; however, the researcher need to make sense of the collected data (Silverman, 2006), and extract significant facts, obtain created insights and discover significant meaning (de Casterlé et al., 2012), and ultimately find new patterns and theories.

The final step is drawing conclusion based on analyzing and discussing the collected data, generalize and address the new viewpoints derived from the research findings and results (Goddard & Melville, 2004). It is about to explain and decide what new theories generate from the research that is significant and meaningful contributed to the body of knowledge in academic circles to get valuable and worthwhile research outcomes and achievements (Miles and Huberman, 1994).

Furthermore, the researcher can gain beneficial research conclusions to successfully present and address the answers of research questions and complete the expected research purpose. This study is for analyzing the status quos of CSR perception and implementation in the Chinese pharmaceutical industry, answering the two research questions including what are the prominent CSR issues and what are the underlying reasons of these CSR issues faced by pharmaceutical companies operating in China, to enhance CSR practices in the Chinese pharmaceutical industry. The following will discuss the research quality and standards of this study in the forthcoming sections.

3.5.3 Data storage management

There is no video recording only audio recording of the semi-structured interviews in this research for collecting data. The whole process of investigation was completely anonymous. It is maybe impossible to anonymize personal voice information on the sound files; however, all sound files in this research are transcribed in anonymous and encrypted form. Each interviewee will be equipped with a pseudonym or coded names in any case when using the interview data.

Due to the face-to-face interviews, the researcher inevitably knows the gender and approximate age of the respondents. Nevertheless, any private information that may reveal the identity of the participants would be excluded from the transcripts, texts and thesis, etc. Personal information linked directly to the respondents would be deleted or disguised, removal or omission. No individual participants will be identified from any collected data and information during the whole process of the research.

The voice-recorded data would not be used in any presentations, public occasions or sort of thing, because that may reveal the voices of the participants or expose their identities. It only used for transcribing the audio record to ensure the authenticity and integrity of the data collecting; and providing the opportunity to go back to check and verify the collected data and information and increase trustworthiness to the study.

During this research project, all collected data and information stored in electronic document form (that only for fidelity and checks), which saved in encrypted folders on the research's personal laptop. For the security and privacy of information, any data stored on personal laptop have password protection to access as a minimum requirement. User passwords will be changed regularly for security consideration. The personal laptop of the researcher would 'locks' after a nonoperational period of 5 minutes to ensure security of the stored electronic documents and files.

The research result and final thesis will submit to UWTSD; and will be supervised and assessed by supervisors and examiners, which is administered by the University; and also, that the final thesis will be made available via the University library and the British library system. The collecting data are recorded, transcribed, processed and analyzed only by the researcher/investigator herself during the whole research.

Furthermore, no collected data from the interviews would be kept any longer than necessary (King & Horrocks, 2010). These audio recordings would be disposed fully after transcription and check is completed. These transcripts and relevant electronic documents and files would thoroughly be destroyed in 5 years after this CSR thesis is completed and assessed. All the electronic data and information (computer files) would be deleted through a process of repeated over-writing of documents, ensuring that the contents cannot be recovered at all.

Overall, the aforementioned protection methods for data storage and management applied in the study, in order to keep safe for the anonymity and confidentiality of all participants in the context of this research.

3.6 Research Quality/ standards

3.6.1 Reliability

Reliability refers to the degree of the consistency of research findings (Saunders et al. 2008). Consistency means the research will produce the same results if repeated. Other researches could reproduce consistent research results (Miller, 1986), when using the given methods and procedures, the data collected would lead to the similar conclusions. It embodies replicability or repeatability of the research results, ensure the dependability of qualitative research (Golafshani, 2003). Moreover, there is the transparency of the research process that easily reached by other researchers those who are undertaking and interpreting the study (Saunders & Lewis, 2012, p.128).

Transcription of audio interviews is a way to ensure reliability in this research. The transcribing process refers to convert recorded sound materials into text transcripts (King & Horrocks, 2010). The transcript of the interviews recorded the gathered data and information, which is convenient for checking afterwards, avoiding missing out and mistakes in order to create a reliable and trustworthy study.

After transcribing the audio recording of interviews, participants will have the access to the transcripts of their own interview, in order to check if there is some missing or misunderstanding, and provide further information for supplement or amendment. Moreover, before the research finalized, a summary of research findings and results would distribute to all participants via email, welcome any feedback from participants, and these feedbacks will be considered and incorporated into the final thesis.

This research undertakes the aforementioned procedures in the process of gathering and analyzing the data to ensure more authentic, credible and reliable in this study.

3.6.2 Validity

Validity refers to accuracy or correctness of search results (Whittemore et al., 2001). It means authentic degree of the whole research process, to conduct and undertake what is relevant and necessary for research purpose (Salkind, 2006). The validity of research process involved in concerning about the adopted research strategies, data collection and analysis method could obtain the insightful and meaningful research findings to correctly answer the research questions (Saunders and Lewis 2012); and truthfully and accurately to achieve the valuable and worthwhile research outcomes (Collis and Hussey, 2013).

In reality, qualitative research results are more likely to be critical and questioned (Kvale, 1989), due to it is based on the subjective, interpretive and contextual data. Therefore, it is important to take steps to ensure the validity of the research, which must be believable, credible and applicable to ensure that the research is valid and valuable to readers and other researchers (Onwuegbuzie & Leech, 2007).

The following five aspects should give serious consideration in order to withstand scrutiny for increasing the validity of this research (Altheide & Johnson, 1994), for addressing rigor in the qualitative research (Morse et al., 2002).

Firstly, the thesis is based on multiple data collection methods to gather and interpret data under cross-referenced multiple sources, in order to improve the validity of the research (Leung, 2015). In this study, the two methods of interviews and document resource have used to gather data as aforementioned. This kind of way was named as triangulation, used two or more different data collecting method and resource to complement each other in the same study for one specific research topic, to provide a confluence of evidence, in order to enhance validity and reducing potential bias in the study (Collis and Hussey, 2013).

Yin (2003) explains the evidence of document content analysis is very useful data sources. However, literature contents are not always accurate and applicable, which is maybe disorganized, out-of-date, or incomplete. It cannot also guarantee there are no errors, because their publications are in different times as well as under different backgrounds, some writers maybe with personal inclination and individual prejudice, and so on (Ghauri & Grønhaug, 2010). Nevertheless, it is ideally complementary to other data collection, such as interviews. Documents analysis can consolidate and enhance the validity and reliability of the collected data and information in research.

Secondly, prior to the formal interviews, the researcher contacts the respondents via email and phone call as many as possible to communicate with the participants, to make them fully aware of the investigation process and the research purpose, which facilitates to develop rapport and trust relationship, acquainting with each respondent. It is helpful to establish comfortable atmosphere and active interaction during the interviews (McGrath et al., 2019), which is conducive to encourage participants to provide more authentic and credible data during the interviews.

Thirdly, anonymity and confidentiality of all participants is helpful for collecting data from interviews more accurate and reliable. The interview contents maybe involve in sensitive topics about the CSR, and disclose some negative information or scandals. Conduct interviews anonymously, the participants could straightly express their real opinions and feelings freely in a relaxed way.

Fourthly, the respondents have access to checking their transcripts after interviews, add some new thoughts, supplementary information, amendments in order to avoid omission, misunderstanding. Moreover, before the research finalized, the researcher provides the general ideas of research findings to all participants, and welcome any feedback from participants, which make the results based on more comprehensive and extensive data with participant's acknowledgement. It is an effective and feasible method suggested by Creswell (2009) to improve the research validity.

Finally, discussing with others in the research field, receiving objective opinions and assessments come from other auditors during the research process, which could also help improve the validity (Creswell, 2009). For example, feedback, suggestions, advices, comments and different viewpoints come from supervisors, and peers or classmates who have been highly interested in this research about CSR.

3.6.3 Limitations

Research limitations are to concern potential weakness in a research design, which are influenced by the chosen data analysis methods (Theofanidis & Fountouki, 2018). In this study, the primary data source is the method of interviews for data collection. The expression abilities and communication skills used to convey information would influence on the quality of collecting data. More or less, the data collection methods have some limitations (Saunders, et al, 2003). Several shortcomings are inevitable in the qualitative semi-structured interviews.

First, sometimes, the subjectivity of researchers is as critical to the research process (Austin & Sutton, 2014), researchers may have own personal inclination or individual preference to ask interview questions and interpret respondents' answers from their own standpoints subconsciously. Data collection and analysis in qualitative research should be conducted in unbiased academic position with neutral attitude as more as possible.

Secondly, personal tendency of interviewees with individual different cognitions, and beliefs and values may lead to the prejudice (Smith, 2007). The individuality of each respondent is diverse, all of interviewees unavoidably has more or less subjective awareness with their own perception, judgment and feeling, due to the differences of personal experiences and living environment, education background, and so forth. It is unavoidable that sometimes the opinions and thoughts of some respondents about the research issues may not completely be impartial. Personal bias might undermine the validity to a certain extent. The researcher needs to carefully consider these and try to make the collected and analyzed data based on reality and seek impartial truth from fact as much as possible.

The third, due to the limited of funding and the constraint of time, in the investigation, the number of the chosen companies involved in sampling selection for interviews is limited, the respondents are limited, the scope of the sample size are limited, so that the information collection and analysis of data are inevitably limited in some extent (Zikmund et al., 2010).

Last but not the least, due to the social desirability bias (Ross & Zaidi, 2019), when sensitive topics arise about CSR during the interviews, interviewees might choose to avoid answering some questions or conceal some of real information; even give an answer but not the real idea in their deep mind, which would result in the research maybe sometimes receiving a partial picture of the actual situation, and accordingly maybe has influences on the research keeping neutrality, the researchers' judgment and the collection of data (Saunders et al., 2009).

3.6.4 Ethical considerations

The ethics of research refers to the responsibility of researchers for appropriateness of research process (Eriksson & Kovalainen, 2016). Ethics in every step of the study is concerned to the moral values and principles. Research ethics constitute the basis for a code of conduct during the process of research, which encompass the manner of conducting specific research, as well as the way of presenting findings and results (Collis & Hussey, 2014). The researcher must be clearly aware of the ethical aspects related to respect, beneficence and fairness for every social survey. It is unavoidable that ethical issues involved in the whole process of research occurred from initiation to completion. Researchers need to face and resolve moral dilemmas appropriately in the course of conducting research (King & Horrocks, 2010). In the research, some ethical considerations are listed as follows:

The first, it is important to consider any adverse effects the research could possibly have on the participants, and avoid the risk of discomfort, embarrassment and stress that might happen to the participants during conducting the interviews or presenting the data (Saunders et al., 2009), so the adequate care needs to be taken during the investigation. Since the research topic of this study on CSR issues can be sensitive, it is the researcher's responsibility to minimize the risk of exposing the participants to any potential harm (Traianou, 2014). For example, the arrangements of locations for undertaking face-to-face interviews would be at a mutual convenient place both the respondents and the researcher, but not the premises of the company's offices and workshops within where interviewees are working, in order to maintain confidentiality.

Moreover, there is not any obvious risk to the physical or psychological well-being of the participants involved. However, there is still a low probability that the respondents may feel uncomfortable when some questions arise during the interviews, such as, some conversation may be related to the CSR scandals and the negative information of CSR. It is necessary to minimize risk for the participants during the investigation, if any problems arise, such as, participants showing any sign of psychological distress, or simply refusing to answer a question, the question would be skipped; if requested, the respondents could stop interviews anytime for no reason.

The second is the volunteering nature and informed consent of participants (Arifin et al., 2018). Every participant is informed that he or she has the right to quit out at any time during the data collection process. Even they could withdraw their consent after completed the data collection of interviews if they wish to do so. It is highly important to obtain the informed consent from all participants before using and presenting the collected data. Prior to the interviews, the participants would receive the Participant Information Sheet and Informed Consent Form via email at least 3 weeks before the interviews, providing enough time for the potential participants to thoroughly consider whether they want to participate in the study or not. It informs the participants about the purpose of the investigation; explain the interview procedure and details, as well as identify any risks during the process of the interviews; provide with the anonymity promised by the researcher and the voluntary nature of their participation; as well as promising to answer any questions that the participants have about the research. All interviewees need to sign up the Information Consent Form before interviews, which indicates they agree to accept an interview voluntarily.

Thirdly is to protect the privacy of the participants, and maintain the anonymity of the participants (Dooly et al., 2017). The gathered information from interviews needs to be treated with care in order to protect the confidentiality. The designed interview questions should be related directly to the research questions, focused on research objectives, without involved in personal or private questions of interviewees (Kimmel, 2007). The researcher needs to promise that not to disclose or expose any personal information of the participants to the third party, and only using these collected data and information for completion of the thesis under permission and agreement of the respondents. All the respondents will be anonymous; and their personally identifying information would be edited or removed for remaining confidential and undisclosed; the interviewees would not be identifiable during the whole research, including the transcript of interviews, the research result and the final thesis, etc. The participants will use coded names instead of real names in order to protect their identities.

Fourthly, provide the benefits for the participant. After the dissertation is completed and assessed, the final thesis will provide for all of the respondents if necessary. The research intends to explore CSR issues faced by pharmaceutical companies, and the underlying causes and reasons triggered these CSR issues, to pave the way for improving CSR perception and implementation in Chinese pharmaceutical industry, so the research finding is benefit for participants' working and undertaking.

Lastly, Data protection and storage safely is highly crucial for minimizing the risk of exposing the participants. Any sensitive personal information of participants would remove from the collected data. All collected data is stored in the form of electronic document under encryption, and keep saved into encrypted folders on researcher's personal laptop with password for safety reason. After completing the thesis, all the records of the collected data would be deleted or destroyed in the appropriate time.

3.7 Summary

The chapter presented the whole research methodology for conducting the research. This research followed the research philosophy of interpretivism, which believes that reality and the individual is inseparable. The position of Interpretivism in relation to ontology is subjectivism that acquiring meanings and understanding phenomena are based on social environment and individual experiential accumulation. Interpretivism in epistemology considers that people's knowledge acquisition is socially constructed by human beings rather than only objectively determined, which cannot be separated from the various individual subjective cognition, knowledge level and consciousness. interpretivism is very suitable for conducting research on business management area, which is in line with this study about CSR issues in Chinese pharmaceutical industry.

Qualitative approach used in this study. Qualitative research approach could flexibly capture meanings and understanding society phenomenon through the study of the viewpoints, thoughts, attitudes and explanation from respondents. It usually involves in a textual description instead of numerical data, normally data collecting focuses on a small group of respondents in qualitative research. This research explores CSR in Chinese business context, which requires in-depth answers, seeks answers in terms of words rather than numbers; therefore, it is explicitly more appropriate to qualitative research approaches.

This study is based on the multiple data collection. In-depth interviews are chosen as the suitable method for collecting primary data, especially for gathering data based on linguistics and not statistics in this research. The semi-structured and one-to-one interviews with non-probability sampling techniques adopted in this research, which is for obtaining as rich data as possible, capturing a wide range of experiences and interpretations about the research topic. The secondary data collecting is document content analysis considered to be vital for triangulation purposes, which could collect data as complementation with interviews, to ensure research findings more valid and reliable, and precisely and accurately achieve meaningful research outcomes.

In this study, Semi-structured interviews focused on small sample sizes highly fit in the sampling criterion represented the targeted population, which could attain more accurate in-depth findings and precise outcome in a qualitative way. Interview guides with Opened-ended questions in advance are designed to elicit detailed information and impactful data from respondents with extension and flexibility. Each one-to-one interview lasted between 50-90 minutes and 18 Respondents completed interviews. The chosen participants for interviews are all middle-level or senior managers and executives who have abundant working experience and extensive knowledge related CSR field, working for these chosen six leading companies. They not only have the deeper thought and broader vision to perceive CSR; but have more opportunities to participate in CSR activities and understand the importance of CSR implementation in the Chinese pharmaceutical industry. They are all precisely eligible for answering the interview questions, and more likely to provide pertinent and valuable data and information.

The analysis of the gathered date in this research adopted an inductive approach, which is commonly suitable for qualitative research, to provide value interpretations

and meanings related to humans and society. The inductive approach requires the exhaustive and comprehensive reading of raw data, orderly and logically to extract concepts, themes and models based on collected data and information through the researcher's interpretation. It is the process of inspecting, rearranging, transforming data, to extract useful information through systematically analysis, applying logical techniques to describe, condense and evaluate data, and interpreting them to obtain research outcome. It is an appropriate approach for data analysis in this research.

Reliability and validity, research limitations and ethic consideration are the essential criterion for quality and rigor of the research. Consistency and trustworthiness are significant important to ensure the reliability and validity in the qualitative research. The transcript of the interviews recorded the gathered data, which is convenient for checking afterwards, avoiding missing out and mistakes in order to create a reliable and trustworthy study. Triangulations applied in the research for convergence and corroboration, among multiple and different sources of data and information resulted in more valuable findings and more robust conclusions for research purpose, which can typically overcome weakness and bias from single method approaches, in order to improve the validity and reliability of the collected data and information in research.

It is necessary to address the salient limitations of the research, which need to fully consider the subjectivities both of researchers and respondents. The main ethical considerations in the qualitative research included minimizing of risk and protecting of participants from harm; respecting for volunteering nature of interviews; ensuring privacy and confidentiality of the respondents; providing sufficient information about the interviews to the interviewees, and so on.

In summing up, the research methods used in the research elaborately presented in detail. It clearly describes philosophical paradigm for this research; and explains the research design, strategies and approaches that have been adopted in this study. It explicated the collecting and analyzing data methods and techniques that applied to undertake this study. The procedures and process of data gathering, data analyzing, data storage and management are addressed elaborately. At the end of this chapter, explicitly presents the validity and reliability, the ethical considerations, and research limitations in this research.

The next chapter focuses on the qualitative data analysis for this study, based on the collected relevant data from the primary data source of in-depth interviews and the secondary data source of document content analysis, which presents and the seven outstanding CSR issues faced by pharmaceutical companies operating in China, and the underlying root causes of these CSR issues in the pharmaceutical industry.

4 Data Analysis

China's pharmaceutical industry is a massive and growing area with developing rapidly (Yip & Hsiao, 2009). China recently has become the world's second largest pharmaceutical market following/after the U.S. (Zhao, 2012). Some challenges require more attention and consideration about how to handle these prominent CSR issues, which pharmaceutical companies have to face, and need to solve urgently, especially in the special business context of China (Spigarelli & Wei, 2012).

Regulatory policies of government and authorities play a crucial role to enhancing CSR in the pharmaceutical industry (Minghui, 2018), especially the sweeping drug policy and healthcare system reforms. China's Medical Reform is with the national long-term goal of building and sustaining and sound public health (Yu, 2015). It aims to enhance the domestically medicine product competitiveness and boost the capacity of the pharmaceutical market in China. It provides numerous opportunities for CSR improvement of pharmaceutical companies in China (Feng et al., 2012).

The population aging process is accelerating gradually and the prevalence of chronic diseases in the total population has increased in China (Ni et al., 2017). Along with economic expansion and increased affluence, many people need a better life and pay more and more attention to their health. Chinese are cultivating the healthcare awareness with increasing standards and demands to seek for advanced treatments and innovative medicines. The change of lifestyle would consume more high-quality medicinal products to maintain higher standard of healthy living. The pharmaceutical market trends in China continue to experience enormous growth (Wu, 2015).

The previous chapter deliberately explained and justified the research methodology of this study. This chapter present collected primary data from the 18 interviews who work for the six chosen pharmaceutical companies; and secondary data come from academic journals, websites, as well as from all kinds of literature related to CSR in the pharmaceutical industry. Through multiple data collection and analysis, there are seven CSR issues outstanding during the analysis of the collected data, which are particularly significant, and need urgently attention and improvement.

The following table shows the respondents' responses about the seven CSR issues faced by pharmaceutical companies, which are highlighted and mentioned most frequently by the respondents during the investigation of the interviews.

The prominent CSR issues	The respondents mentioned the CSR issue(s)
(1) quality and safety of medicines	11 out of 18 respondents mentioned
(2) advertising and promotion of medicines	12 out of 18 respondents mentioned
(3) Environmental pollution	14 out of 18 respondents mentioned
(4) Commercial corruption and bribery	14 out of 18 respondents mentioned
(5) Pricing and access to medicines	15 out of 18 respondents mentioned
(6) Waste of medical resources/ rational use of medicines	15 out of 18 respondents mentioned
(7) R&D and patented medicines	17 out of 18 respondents mentioned

The data analysis above seven conspicuous CSR issues and the causes of these issues in pharmaceutical industry presented as follow for further elaboration in detail.

4.1 Quality and safety of medicines

Pharmaceutical quality commonly involves satisfying customers' expectations and needs, which is supposed to achieve the desired quality, with safety and efficacy of the drug products (Patil & Pethe, 2013). The customers of pharmaceutical products normally are patients who take medicines, as well as health professionals who prescribe, dispense and administer medicines (Woodcock, 2004).

Respondent 1: The pharmaceutical industry has the power to save lives or improve the quality of life, but only on the premise of guaranteeing the quality and safety of drugs... Low-quality medicinal products can destroy reputation and lose customer trust...

Respondent 7: The issues about the quality of medicines made in China are related to generic drugs. There are some domestic generic medicines currently sold on the Chinese market that fall short, and have low quality compared with their branded equivalent...

At present, most of the domestic drugs in China's pharmaceutical market are generic drugs, therefore, one of priority CSR issues that need to resolve is how to improve the poor quality of domestic generic medicines in China.

Respondent 9: Domestic generics in China have no good reputation, which sometimes are ineffective without proper curative effects or have given rise to severe side effects in some cases. This has led to many patients in China with cancers or rare diseases have to use expensive import medicines instead of generic drugs. Some generic drugs in China do not have same efficacy as the original brand medicines...

Generic drugs are copies of brand-name drugs, which should provide the same clinical benefits, with efficacy and side effects in the same way as its brand-name version (MacKrill & Petrie, 2018).

Respondent 5: Sometimes, the "Made in China" is associated with the cheap and poor quality of product characteristics. When patients have the lack of trust to the medicines from local production by domestic manufacturers, wealthy/rich patients in China have turned to the medicines produced by western pharmaceutical MNCs...

Respondent 18: Many patients and doctors prefer to use expensive imported drugs and brand-name high-quality drugs to treat diseases in China, because they have no confidence in domestic generics, or sometimes there are no high-quality generic drugs available to meet their needs...

Some original drugs with patent protection come from foreign-funded enterprises, which have established strong brand recognition among doctors and patients who trust in their quality and therapeutic effects (The Economic Observer, 2018).

The inferior drugs maybe contain substandard or contaminated APIs (Johnston & Holt, 2014) or hazardous substances, instead of active scientific ingredients in the pharmaceutical manufacturing process, which is very dangerous (Chow, 2017).

Respondent 17: In recent years, medicines with poor quality led to serious consequences of patients, including children, which have caused immeasurable economic losses and healthy losses to patients...

Respondent 3: These substandard drugs and APIs belonged to inferior medicines pose a serious risk to public health and safety, which always is the most important CSR issues in the pharmaceutical industry...

According to the Chinese National Health Commission, there are about 95% of the drugs approved by the China Food and Drug Administration is generics (Yuan, 2014). Nevertheless, many generics in China are poorly manufactured with low quality and much less effective than their originals.

Respondent 12: In China, some pharmaceutical manufacturers produce inferior imitations and generics. These low-quality drugs not only cannot meet the needs of consumers, but also cause a lot of waste of resources...

There are some reasons triggered the CSR issues about the quality of medicines in the Chinese pharmaceutical industry.

Respondent 15: The reasons for the low quality of generic drugs in China are not only because of inferior AIP, but also involved in unqualified excipients of drugs and the lack of systematic supervision and quality management about excipients of drugs.

For example, in 2014, 90 million capsules containing toxic materials circulated on the Chinese market, which have endangered public health. The "poisonous capsule" incident caused a sensation which originated from substandard excipients tainted with poisonous chemical element (Gao, 2014).

The excipients should be effective and able to guarantee the characteristics regarding the qualified quality, stability, functionality, safety, solubility of medicine products and the acceptance of patients (Elder et al., 2016; Abdellah et al, 2015). The research and development of excipients (auxiliary material) for medicines is seriously inadequate in China (Sun, 2015).

Respondent 18: The management of medical logistics is considered another important part for the health care system to provide careful and safe transportation of medicines. The logistics and distribution process affect the final quality and efficacy of medicines in storage and transportation. Some medicines need to keep in cold storage at proper temperature and humidity to prevent them damaging and spoiling during transportation.

Respondent 11: Another reason of many inferior generics flooding in the Chinese pharmaceutical market is that some shortsighted companies tend to cut costs and make profits for increasing economic benefit in short-term way. This also indicated that there is the need to strengthen and enhance the law enforcement, make more efforts to suppress such abominable business behaviors.

Respondent 5: The quality controls of generics are crucial for meeting the demand of domestic market and competing in international market. Sometimes, pharmaceutical companies sacrifice product quality for reduce costs. That resulted in a lot of negative influences for the reputation of Chinese domestic generics.

Substandard drugs with poor quality fail to meet scientific specifications, or they have become contaminated (Ho, 2011). China was dogged by a history of manufacturing poor-quality pharmaceuticals (Bate & Porter, 2009), some medicines produced by domestic pharmaceutical manufacturers is not up to standards, sometimes which could cause serious health problems, bringing disasters to people, even death.

Respondent 6: Inferior drugs are to the detriment of the consumers. Some branded drugs protected by patent law have the high quality with a good reputation. Its counterpart of domestically generics sometimes not precisely copy scientific formulation of active ingredients as same as the original ones, because of the backward technical level, unqualified equipment conditions and insufficient production capacity in some Chinese pharmaceutical companies.

Inferior medicines damage corporate reputation. Substandard drugs and APIs should be considered as a serious threat to the health of human beings.

Respondent 9: The reasons of this issue related poor quality of medicines mainly include poor quality control and weak supervisory system of manufacturing process, outdated technology, and an overly strong will to control and lower costs for cost reduction.

The existing inferior and substandard medicines indicates that Chinese authorities is not strict enough to disclose and crackdown the unqualified factories in enforcement, which need enhance the regulation and legislation against illegal manufacturing and illegal products, strengthen fines and punishments, and so on (Chow, D. 2009).

Respondent 5: Some pharmaceutical enterprises are shortage of CSR consideration and neglect the supervision and control of drug quality; pay little attention and invest to update manufacturing facilities for improving the quality of medicines.

In 2009, a large batch of unqualified rabies vaccines Jiangsu produced by Yanshen Pharmaceutical Corporation, which resulted in more than 200,000 people affected rabies because of the invalid vaccines. Nevertheless, very few persons involved in this incident took the responsibility faced sanction of law, and most of them only get light punishment with the moderate token fines (Dong, Huang & Dong, 2009). It evidently shown that legislation enforcement was not enough, supervision system is loose, punishments for CSR violation are lenient in China.

Due to lack of the necessary quality assurance system during drug production, or simplifying or changing the production operation rules and standards at will, the phenomena of slipshod manufacturing and irresponsible behaviors are deteriorated in pharmaceutical industry (Gu & Ye, 2015). Medicines in the manufacturing process should have strict codes and appropriate criteria to control product quality, which is the basic guarantee for benefit of the users. The 2010 revised edition of the latest GMP (Good Manufacturing Practice) is a set of mandatory standards for raising the quality of products (WHO, 2017). Pharmaceutical manufacturers need to get the national GMP certification with licenses for pharmaceutical production, which must meet the GMP standards for quality and safety assurance of medicines.

Respondent 7: The laws and regulations on medicinal quality are immature with loopholes, lack of supervision from authority coming along too light punishment. The Chinese government should devise more effective policies that aim to raise standards of the domestic pharmaceutical manufacturing in order to improve the quality of drugs.

It is also crucial to increase technical competence and innovative capability to enhance the safety and efficacy of generic drugs in China, improve poor quality of generic drugs in China (Tiecheng & Fang, 2017), which can lead to more effective alternatives to original drugs, to lower healthcare costs for better meeting the public demand (Huang et al., 2013).

Respondent 6: In the past, there are lax evaluation criteria of drug quality system. In recent years, Government promotes the consistent evaluation and puts forward the bioequivalence test of generic drugs to improve quality and effectiveness of medicines.

Respondent 12: Loose approval standards in Chinese pharmaceutical industry need to improve and strengthen. The Generic Quality Consistency Evaluation (GQCE) and the bioequivalence test are with the help to tighten approval standards. It makes the quality and safety of generics in China under better official scrutiny, and encourages Chinese pharmaceutical manufacturers to produce high-quality generics.

The governmental role in regulating pharmaceutical quality is indispensable to ensure the safety and efficacy of medicinal products in order to protect the patients. It is remarkable significance to increase government supervision and punishment of inferior drugs through legal means. CFDA (China Food and Drug Administration) is in the process of implementing a generics bioequivalence evaluation campaign (Liu, 2018), eliminating the low-cost, low-quality copycats. The CFDA believed that "bioequivalence test" could be used as a measurement index, which can enhance largely the quality of generic drugs in Chinese market (Bate et al., 2016).

Respondent 3: Generic drugs must be as safe and effective as their branded equivalents before they allowed to enter the market. Otherwise, inferior generic drugs are wasteful and unnecessary if they are with low curative efficacy or with severe negative effects.

Implementing the generic drugs consistent evaluation (Cai, 2018) and mandatory bioequivalence test will promote the quality of China's domestic generic medicines (People's Daily, 2018). Generics approved only under the conditions that their quality and efficacy are equivalent to the original patented medicines (GaBI, 2018).

For more clearly presenting the data and information gathered from the interviews, the table 4.1 summarized the main viewpoints of CSR issues related to medicinal quality and safety as follows:

Table 4.1: Summary CSR issues related to quality of medicines

Main ideas from interviews	Codes	Respondents
Low-quality medicinal products can destroy reputation and lose customer trust...	destroy reputation	R1 R9
Some domestic generic medicines currently sold on the Chinese market that fall short , and have low quality compared with their as their branded equivalents...	generic medicines fall short low quality	R7
Many patients in China have no confidence in domestic generics... these low-quality generic drugs cannot meet consumers' needs ... Patients have the lack of trust to the medicines come from local production...	no confidence lack of trust not meet consumers' needs	R5 R18
Some domestic generics... are ineffective or have... severe side effects ...	ineffective severe side effects	R9
Many patients... prefer to use expensive imported drugs ... high-quality drugs ... Wealthy/rich patients in China turned to the medicines produced by western pharmaceutical MNCs...	high-quality drugs imported drugs	R5 R9 R18
Medicines with poor quality led to serious consequences of patients, including children, which have caused immeasurable economic losses and healthy losses to patients... Inferior medicines pose a serious risk to public health and safety ...	poor quality economic losses healthy losses public health and safety	R3 R17
Some pharmaceutical manufacturers produce inferior imitations and generics. These low-quality drugs not only cannot meet the needs of consumers, but also cause a lot of waste of resources ... Otherwise, inferior generic drugs are wasteful and unnecessary if they are with low curative efficacy or with severe negative effects...	waste of resources wasteful and unnecessary	R3 R12

For more clearly presenting the data and information gathered from the interviews, the table 4.2 summarized the causes of CSR issues related to medicinal quality and safety as follows:

Table 4.2: Summary causes of CSR issues regarding quality of medicines

Main ideas from interviews	Codes	Respondents
The reasons for the low quality of generic drugs in China are not only because of inferior AIP , but also involved in unqualified excipients of drugs...	inferior AIP unqualified excipients	R15
Many inferior generics flooding in the Chinese pharmaceutical market is that some shortsighted companies tend to cut costs and make profits for increasing economic benefit ...	cut costs increasing economic benefits	R11 R9
Its counterpart of domestically generics sometimes not precisely copy scientific formulation of active ingredients as same as the original ones, because of the backward technical level , unqualified equipment conditions and insufficient production capacity in some Chinese pharmaceutical companies...	backward technical level unqualified equipment conditions insufficient production capacity	R5 R6 R9
The reasons of this issue mainly include poor quality control and weak supervisory system of manufacturing process... Sometimes pharmaceutical companies sacrifice product quality for low-cost generics...	poor quality control weak supervisory system	R5 R9
Some pharmaceutical enterprises are shortage of CSR consideration and neglect the supervision and control of drug quality...	shortage of CSR consideration neglect the supervision and control	R5
Loose approval standards in Chinese pharmaceutical industry need to improve and strengthen...	loose approval standards	R12
The laws and regulations on medicinal quality are immature with loopholes , lack of supervision from authority coming along too light punishment ...	immature laws and regulations lack of supervision light punishment	R7
The logistics and distribution process affect the final quality and efficacy of medicines in storage and transportation ...	logistics and distribution process in storage and transportation	R18

4.2 Advertising and promotion of medicines

There are two kinds of drugs, prescription drugs and OTC drugs. OTC means non-prescription drugs (Chowdhury, 2019). It refers to the drugs that sold over the counter, which can purchase in pharmacies and even supermarkets without having to hold a doctor's prescription (Tong & Aslani, 2019). However, prescription drugs must prescribe by a doctor. Prescription drugs maybe have high possibility of side effects or adverse reactions when without the proper instruction and strict direction for use, so it is necessary to have doctor's guidance and use them according to doctor's orders (Neumann & Cohen, 2015).

Respondent 5: Doctors have responsibility to choose appropriate prescription drugs and to instruct patients how to take them. Doctors with due professional ethics should cautiously and reasonably prescribe drugs to patients for the good of patients.

Respondent 17: Doctors prescribing medicines with economic consideration will lead to over-treatment and over-prescription, which is inappropriate way to promote medicines. Doctors' acceptance of bribes from sales representatives of pharmaceutical companies is the root cause of these bad business behaviors in promotion of prescription medicines.

Therefore, same as in some other western countries, the government has imposed a ban on public advertising of prescription drugs in China (Schatz, 2015), according to relevant laws and regulations, including the advertising law and the drug advertising review and approval system. The government banned advertising of the prescription drugs, while there are no restrictive provisions for advertising the non-prescription drugs (Fang, 2017). It is necessary to better propaganda and promotion for OTC in the mass media. Because OTC drugs sold directly to the public, consumers need channels to understand the efficacy and other information of OTC products.

Respondent 4: However, there is nothing more harmful than false propaganda of drugs. It is extremely immoral behavior for earning money to sacrifice consumers' health and even life. Some illegal propaganda in drug advertisements misleads customers, which resulted in severely negative consequences.

Respondent 5: It is difficult for consumers to distinguish the authenticity of OTC advertisements. Exaggerating curative effect in false advertising let the patients under untrue guidance, which will pose a serious threat to the health of people.

The competition in pharmaceutical market becomes increasingly fierce, sometimes, the radical advertising is one of marketing tools to expand marketing (Kotler et al., 2015). However, false advertising will bring negative effects to consumers. For example, pharmaceutical giant Pfizer paid \$2.3 billion for their illegally marketing on its painkiller "Bextra". The drug only approved to treat symptom for arthritis and menstrual cramps, but Pfizer also promoted it for the treatment of acute and surgical pain and some even at dangerous doses (Harris, 2009). The unethical marketing promotion behavior not only caused the huge fines, but these illegal drugs also withdrawn in 2005 (Sibbald, 2005). Because it may cause high risks for kidney, skin and heart, endanger people's health.

Respondent 10: Pharmaceutical companies should pay less attention to medicine propaganda and advertisement; instead bring more high-quality innovative medicines into pharmaceutical market for benefiting mankind.

Respondent 6: It is still necessary to work together with the regulatory authorities to strengthen supervision, tougher enforcement of law and regulations, raise the punishment standards for curbing these deceitful and misleading OTC advertising.

At the same time, due to the huge profits brought by advertising effects, some unethical profiteers take advantages of loopholes in lax regulations and legislation. The government should closely supervise drug advertisements with clear rules, and establish appropriate penalties for violations (Fang, 2017). There still have some regulation and legislation need to enhance, including the loose approval system, weak supervision and light punishment of illegal advertisements.

Respondent 7: In China, the continuous influx of rural population into the city results in expansion growth of the OTC market. Because these rural migrants usually do not have urban health insurance and benefits in city, when they get sick, they tend to buy cheaper over-the-counter drugs from pharmacies rather than go to expensive hospitals.

Both urbanization and economic development resulted in China's OTC market constantly expanding. It is extremely important to ensure reasonable publicity and authentic information of OTC medicine advertisement, because it aimed to for more and more OTC consumers who maybe are lack of self-medication knowledge.

Some of false drug advertisements are gradually shifting into the internet platform. The rapid development of Internet opened the door to the online purchasing of drugs, some shortsighted profiteers spread false advertisements and sell inferior drugs on the internet, these illegal drug advertisements seriously undermine the order of the drug market (Parekh & Shrank, 2018).

Respondent 13: Illegal medical advertisements have entered the Internet platform, misleading consumers, and information dissemination through various tools of communication software makes supervision and regulation of false advertisements more complex and difficult.

Traditional Chinese medicine (TCM) accounts for a significant proportion in over-the-counter drugs (OTC). TCM is in a special protected position in China (Zhao & 2019) with cultural acceptability. Chinese traditional culture during thousands of years has made most of Chinese believe in and deeply rooted on traditional Chinese medicines for treatment of various kinds of diseases in China (Yuan et al., 2016). Nevertheless, this special status of TCM in China provided some mercenary companies with the chances to take advantage of people's trust recklessly through false advertising.

Respondents 12: Chinese consumers tend to choose traditional Chinese medicines for self-treatment when faced OTC as a whole with culturally embedded preference. Only when people have found their own disease causes and want to reduce symptoms in a short time, they are more inclined to choose some western medicines for treatment.

Respondent 5: Because of the complexity of the ingredients, many functions of traditional Chinese medicine (TCM) are difficult to explain, some profiteers find the chance to exaggerate the efficacy of TCM drugs, even tout the so-called panacea.

Another focus of improper advertising is personal health care products. With the improvement of living standards, more and more people begin to pay attention to health care. However, behind all kinds of healthcare products is more and more dazzling marketing manipulation (Gao, 2008).

A considerable proportion of false advertisements are related to illegal propaganda of health care products with exaggerated efficacy. The efficacy of medicines plays a key role in the attempt to convince the consumer to purchase (Henkemans, 2016).

Respondent 16: Misleading advertising of health care medicines make use of people's desires for health and improvement of body function and keeping in good shape, which are easy to cater to consumers' psychology with exaggerated advertisements.

There is need of long-time effort to improve the reputation of OTC propaganda for health care products (Xuefei & Shuling, 2017), which often tend to exaggerate the efficacy of medicines, especially dietary supplements in commercial advertisements.

Respondent 4: There will always are some pharmaceutical enterprises that are lack of moral consciousness but are bold in the profiteering behaviors. However, consumers, especially a number of old people are at high risk when faced improper advertisements, because of lack the ability to distinguish false information from advertisements.

Respondent 9: There are some ways to improve the issues. Such as, the knowledge lectures organized by community to enhance discernment of the elderly consumers who are vulnerable to false advertising; to disclosure and expose of frauds and traps relevant to illegal marketing of healthcare medicines.

A large number of cases about false adverting medicines are relevant to chronic diseases with fraudulence, most of which also aim at older users. The elderly is at high risk of drug injury to people when using over-the-counter (OTC) medications (Chui & Albert, 2018), especially under the misleading advertisements.

Sometimes the routine treatment of medical model has no obvious curative effects for chronic diseases, many elderly users will turn to that some “magical products”

Respondent 8: Modern medicines still cannot overcome some stubborn chronic diseases. Patients maybe complain about the inefficiency of prescription medicines from doctors. Naturally, the explanation of "easy to understand" comes from false advertisements are glamorous and attractive and more readily accepted.

Respondent 11: When there are no effective drugs for some chronic diseases on the formal treatment channels; some consumers who rush to “effective cure” in hurry are vulnerable to illegal advertisements about miracle pills and magic cures.

One important reason of inappropriate promoting medicines is the light punishment by law and regulation (Gao, 2007). Exaggerating the use value of drugs, cover up the adverse reactions and side effects of medicine products, which all deceive and attract consumers to purchase their medicines (Nehf, 2018). However, due to scant effective regulations, immature law system, and poor supervision in China, this kind of illegal advertisement rarely faced prosecution and serious punishment.

Respondent 10: Some pharmaceutical enterprises dare to conduct illegal and misleading propaganda, which is related to light punishment from regulatory authorities. A number of companies get much more economic benefits from false advertisements than they suffer from the penalties imposed by laws and regulations. The amount of fine paid is a drop in the bucket compared with the huge profits earned.

Deceptive medical advertisements prohibited repeatedly but still spreading in China due to the slack regulatory system (Gao, 2007). It is also necessary to enhance the standard for examination and approval of OTC drug advertisements (Ma & Lou, 2013). There is the need to build strict censorship and supervising systems about advertising. Intensifying supervision and strengthening punishment will form a strong deterrent force to alleviate the illegal phenomenon (Schatz, 2015), for standardized, scientific and reasonable promotion for medicines.

Respondents 6: For false OTC advertising problems, there still have some immature policies need to improve, which need to put into action on strengthening the weak supervision and regulation for publishing media and advertising agents.

Respondent 5: Overall, on the one hand, lax examination and approval system for OTC advertisement need emergently to improve; and on the other hand, we should make the dodgy companies pay a heavy price for their violations of advertising laws and rules.

It is necessary to improve the information efficiency and encouraging pharmaceutical enterprises to invest more in advertising and promotion to ensuring the authentic and reliable information of medicines conveyed to mass consumers (Biao, 2019).

For more clearly presenting the data and information gathered from the interviews, the table 4.3 summarized the main viewpoints of CSR issues related to advertising and promotion of medicines as follows:

Table 4.3: Summary CSR issues related to advertising and promotion of medicines

Main ideas from interviews	Codes	Respondents
Let the patients without professional knowledge under untrue guidance , which will pose a serious threat to the health of the people... Doctors prescribing medicines with economic consideration will lead to over-treatment and over-prescription , which is inappropriate way to promote medicines...	untrue guidance economic considerations over-treatment over-prescription	R5 R17
There is nothing more harmful than false propaganda of drugs . It is extremely immoral behavior for earning money to sacrifice consumers' health and even life...	false propaganda of drugs immoral behavior	R4
In China, the continuous influx of rural population into the city results in expansion and growth of OTC market ...	rural population expansion and growth of OTC market	R7
Illegal medical advertisements have entered the Internet platform , misleading consumers, and information dissemination through various tools of communication software makes supervision more complex and difficult...	internet platform supervision more complex and difficult	R13
Chinese consumers tend to choose traditional Chinese medicines for self-treatment when faced OTC as a whole... Because of the complexity of the ingredients, many functions of traditional Chinese medicine (TCM) are difficult to explain, some profiteers find the chance to exaggerate the efficacy of drugs ...	traditional Chinese medicines ... exaggerate the efficacy of drugs ...	R5 R12
Misleading advertising of health care medicines make use of people's desires for health and improvement of body function... which are easy to cater to consumers' psychology with exaggerated advertisements...	health care medicines cater to consumers' psychology	R16
When there are no effective drugs for some chronic diseases on the formal treatment channels; some consumers... are vulnerable to illegal advertisements about miracle pills and magic cures...	chronic diseases vulnerable to illegal advertisements	R8 R11

For more clearly presenting the data and information gathered from the interviews, the table 4.4 summarized the causes of CSR issues related to advertising and promotion of medicines as follows:

Table 4.4: Summary causes of CSR issues regarding advertising and promotion

Main ideas from interviews	Codes	Respondents
Doctors' acceptance of bribes from sales representatives of pharmaceutical companies is the root cause of these bad business behavior in promotion of prescription medicines...	doctors' acceptance of bribes	R17
It is still necessary to work together with the regulatory authorities . There still have some immature policies need to improve...	regulatory authorities immature policies	R10 R6
Strengthening the weak supervision and regulation for publishing media and advertising agents...	weak supervision and regulation	R6
However, consumers, especially a number of old people are at high risk when faced improper advertisements, because of lack the ability to distinguish false information from advertisements... the elderly consumers who are vulnerable to false advertising ...	the elderly consumers vulnerable to false advertising	R4 R9
Lax examination and approval system for OTC advertisement need emergently to improve...	lax examination and approval system	R5
Some pharmaceutical enterprises dare to conduct illegal and misleading propaganda, which is related to light punishment ...	light punishment	R9 R10
Chinese advertising unbalanced governance at present have the existing constraints from advertising legislation in pharmaceutical market, with arbitrary operation of government power...	unbalanced governance the existing constraints arbitrary operation	R11

4.3 Environmental pollution

In the past several years, the rapid development of science and technology has greatly improved the medical level and ability to treat various diseases in the world. However, along with the extensive utilization of various medicines, many people begin to realize that human society is facing a new environmental pollution problem that cannot be ignored in the 21st century, which is pharmaceutical environmental pollution (Larsson, 2014).

Respondent 6: Making any business decisions about pharmaceutical manufacturing should be with consideration of the environmental consequences, it means considering the possible negative impacts on the environment.

Environmental performance carries considerable weight in CSR activities (Dunn et al., 2010). The potential environmental impacts of the manufacture, utilization and disposal of medicines become a crucial topic of CSR in pharmaceutical industry. Pharmaceutical manufacturers need to enhance CSR consciousness towards protecting environment and preventing pollution (Kümmerer, 2010), to minimize the damage to the surrounding environment (Jimenez-Gonzalez et al., 2011).

Respondent 1: Believes that avoiding the excessive usage of environmental resources, reduce misuse/abuse and waste of natural resources as well as minimize negative impacts on natural environment are the essential CSR for pharmaceutical companies.

Pharmaceutical manufacturing could bring along large pollution emissions, complex contaminated components into ecosystem with serious environmental influences (Mathew & Unnikrishnan, 2012). These pollutants resulted in various degrees of impacts on environmental quality and human health (Larsson, 2014).

Respondent 9: The harmful substances in exhaust gas, waste water and waste residue are discharged from some of pharmaceutical plants in excess of the prescribed discharge standard seriously, which threaten the health of the surrounding residents.

Respondent 7: Some pharmaceutical ingredients or toxics without appropriate disposal could be discharged into the environment during pharmaceutical manufacturing. The active ingredients in these pharmaceutical wastes may enter the drinking water system or accumulate in vegetables and aquatic products.

The main carrier of pharmaceutical pollution is water, followed by entering biological chain (He et al., 2016). In other words, with the help of water circulation system, the contaminant of pharmaceutical waste can spread to all parts of the world (Fick et al., 2009). And through biological chain, the harmful substances of emission can be transmitted among organisms, and finally influence on the whole ecological system (Bu et al., 2013), leading to environmental degradation.

Respondent 6: Medical waste are considerably large in quantity with unpleasant in smell resulted in air, soil and water pollution, which maybe contain heavy metals, antibiotics and microorganisms, and bring seriously threat to ecosystem stability.

Pharmaceutical waste not only pollutes water sources (Larsson et al., 2007), but also pollutes soil (Li, 2014). Once toxic substances come from pharmaceutical wastes enter the soil, adsorbed by the soil, which maybe kill microorganisms and protozoa in the soil, destroy the micro ecology in the soil, and in turn, reduce the soil's capability to degrade pollutants in agricultural field (Monteiro & Boxall, 2009).

Respondent 12: In addition, Soil contamination can accumulate pollutants into plants and animals through the food chain, endangering human health, causing other diseases.

Respondent 6: Soil pollution can lead to serious direct economic losses, crop pollution and yield reduction. In some cases, the heavy metals in food exceed the standard also due to the soil pollution.

Many toxic substances including heavy metals and chemicals residual accumulate in animals and plants, which will cause serious damage to human health after eating, digesting and absorbing them (Białk-Bielińska et al., 2018).

Respondent 9: Although many pharmaceutical enterprises have established the treatment and disposal processes of "three wastes" (the pollution of air, water and soil), part of which is weak and feeble. At present, some of small and medium sized pharmaceutical manufacturers have limited technological and financial capability to deal with these pollution discharges.

There are three major channels of drug environmental pollution: drug excretion into the environment through human and animals, incorrect discard of unused drugs, and toxic components or pollutants discharged from pharmaceutical manufacturers. Among these three channels, the first channel is the drug excretion from the human body and animals (Caldwell, 2016) from the perspective of drug consumers

Respondent 15: Especially when excessive use of medicines, these drugs taken by humans and animals excreted through urine or feces, which find their way into rivers, lakes and even drinking water system resulted in water pollution, and can have a high risk of people health, and devastating effects on the environment.

The second channel of drug environmental pollution is related to improper discard of disused medicines. In most households, we can find boxes of long-standing /expired medicines that eventually are thrown into garbage cans or sewers (Tong et al., 2011).

Respondent 7: For ordinary families, expired and unnecessary medicines will not be retained; and generally choose to throw away. Inappropriate discard/disposal of the unused medicines will make the soil and water resources contaminated by drug-related ingredients, which could cause potential environmental risk.

The third channel of pharmaceutical environmental pollution is the drug pollutants discharged from pharmaceutical manufacturers (Cardoso et al., 2014), which has become one of the most concerned CSR issues. Due to various reasons, some pharmaceutical manufacturers discharge hazardous substances into environment without proper disposal of these pharmaceutical wastes (Caldwell, 2016).

China has become the top producer and exporter of APIs worldwide (Deqiang & Li, 2019), played a role as a major supplier of Active Pharmaceutical Ingredients (APIs) all over the world. Manufacturing APIs on such a large scale will inevitably cause a huge environmental risk (Kookana et al., 2014). In particular, a large amount of waste discharged from APIs manufacturing process without appropriately treatment and disposal (Larsson, 2014), led to harmful contaminants expose to environment, caused great damage to ecological system (Cardoso et al., 2014).

Respondent 5: Those APIs manufacturers become big polluters with low added value, high-energy consumption and high risk of polluting environment.

From the perspective of consumers, excessive medication not only resulted in waste of medical resources and environmental pollution (Wang, 2018), but also seriously harm the health and the lives of consumers (Mao et al., 2015).

Respondent 10: Expired medicines often come from those over-prescribed medicines. If discarded improperly, it may cause serious environmental damage.

Respondent 11: If the doctor in the hospital can prescribe drugs with proper and right dosage, it can greatly reduce the number of disused and expired drugs in the family.

Moreover, it is necessary to take effective measures, such as formulate regulation, propagation and education to the general public (Bu et al., 2013), and establishing effective recycling and safe disposal channel for expired medicines, for controlling environmental medicine pollution.

Respondent 3: Only when consumers have established reasonable awareness of rational drug use, and understand the importance and approaches of discarding medicines correctly, can medicine pollution to the environment be significantly decreased.

The sources of antibiotics in water come from domestic sewage and medical wastewater. When water, meat and vegetables contaminated by antibiotic residues, which are eaten, digested and absorbed by people, resulted in antibiotics entering the human body and increase bacterial resistance (Zhang et al., 2015).

Respondent 15: Pay more attention to the growing problem of drug-resistant pathogens caused by abuse of antibiotics. The emergence of bacterial resistance makes the normal dose of drugs no longer play its due curative effect, or even make drugs completely ineffective, thus make some disease easier to spread and more difficulties to treat.

Overuse of antibiotics lead to drug resistance and super bacteria (Ramya & Sankar, 2018). Bacterial resistance is an alarming problem caused by immoderate medication, come along environmental medicine pollution (Gothwal & Shashidhar, 2015).

Respondent 4: There is not only need to improve poor environmental supervision and inadequate pollution controls, but also improve the low efficiency of production, and reduce waste discharge to environment during the pharmaceutical manufacturing.

Drug manufacturing could generate hazardous pharmaceutical waste that need to disposal properly (Petrovic et al., 2013). Pharmaceutical companies should follow the requirements of laws and regulations to improve waste treatment and disposal in the manufacturing process, to reducing the harmful emissions (Larsson, 2014).

Respondent 7: Some pharmaceutical companies are reluctant to invest enough funds, manpower and material resources to control pollution, leading to a serious shortage of human, material and financial resources to deal with the existing environmental problems. It is very dangerous to pursue economic benefits at the expense of the ecological environment.

Pharmaceutical enterprises should increase investment to introduce and upgrade more environmentally friendly manufacture equipment and enhance manufacturing technology, to ensure minimum impact on environment.

Respondent 18: However, most of pharmaceutical companies in China are small and medium-sized enterprises, lack of advanced equipment, adequate financial support and short of qualified sci-tech talents, leading to the low utilization rate of raw materials in some domestic pharmaceutical companies.

Respondent 6: Domestic medicinal manufacturers should achieve a balance between economic and environmental benefits. It is need to enhance production technical level, and introduce energy-saving manufacturing facility to promote of production efficiency and improve resource utilization rate and reduce waste.

Especially manufacturing pharmaceuticals as heavy polluters, it is necessary to improve effectiveness and efficiency about the treatment of waste discharge and the disposal of harmful chemical substances emission, which are the essential CSR commitments in order to protect the ecological environment (Rehman et al., 2015).

Respondent 2: Pharmaceutical enterprises should adopt advanced production technology and equipment to upgrade the level of pollution prevention and control, and eliminate backward manufacturing processes that usually with high energy consumption, low efficiency and high pollution.

Respondent 4: The pollution in pharmaceutical industry is aggravated by insufficient government regulation and weak media publicity with public scrutiny in China.

The Chinese environment-related laws and regulations have some loopholes. There is still a lot of work that need to do about building effective environmental regulatory system in a science-based way (Bu et al., 2013).

Respondent 5: At present, the weak environmental consciousness of the pharmaceutical industry still needs to be further improved. The punishment for environmental violations in China is deficient in some extent, and the fines/cost of environmental violation is light. As a result, some enterprises would rather face to be punished than invest more money in improving pollution prevention and control.

For more clearly presenting the data and information gathered from the interviews, the table 4.5 summarized the main viewpoints of CSR issues related to environmental pollution as follows:

Table 4.5: Summary CSR issues related to environmental pollution

Main ideas from interviews	Codes	Respondents
Avoiding the excessive usage of environmental resources , reduce misuse/abuse and waste of natural resources , as well as minimize negative impacts on natural environment ...	excessive usage of resources misuse/abuse of resources negative impacts on environment	R1 R6
Some pharmaceutical ingredients or toxics without appropriate disposal could be discharged into the environment during pharmaceutical manufacturing ...	toxics could be discharged during pharmaceutical manufacturing	R7 R5
Those APIs manufacturers who still remain be big polluters ... especially when if those toxics are discharged directly without properly processed ...	APIs manufacturers big polluters without properly processed	R5 R15
Due to the low utilization rate of raw materials in China, resulting in a large number of waste residues...	low utilization rate of raw materials	R6 R18
The harmful substances in exhaust gas, waste water and waste residue are discharged from some of pharmaceutical plants in excess of the prescribed discharge standard seriously, which threaten the health of the surrounding residents...	waste water exhaust gas waste residue	R9 R12 R3 R6 R7
Especially when excessive use of medicines , these drugs taken by humans and animals excreted through urine or feces , which find their way into rivers, lakes and even drinking water system resulted in water pollution...	excessive use of medicines excreted through urine or faeces	R3 R15
For ordinary families, expired and unnecessary medicines will not be retained, and generally choose to throw away, Inappropriate discard/disposal of the unused medicines will make the soil and water resources contaminated by drug-related ingredients...	expired and unnecessary medicines Inappropriate discard/disposal	R7 R10
Pay more attention to the growing problem of drug-resistant pathogens caused by abuse of antibiotics . The emergence of bacterial resistance makes the normal dose of drugs no longer play its due curative effect... thus make some disease easier to spread and more difficulties to treat...	abuse of antibiotics drug-resistant bacterial resistance	R15

For more clearly presenting the data and information gathered from the interviews, the table 4.6 summarized the causes of CSR issues related to environmental pollution as follows:

Table 4.6: Summary causes of CSR issues regarding environmental pollution

Main ideas from interviews	Codes	Respondents
Expired medicines often come from those over-prescribed medicines ...	over-prescribed medicines	R10 R11
Those APIs manufacturers become big polluters with low added value, high-energy consumption and high risk of polluting environment ...	low added value high-energy consumption high risk of polluting environment	R5
Improving the low efficiency of production , and reduce waste discharge to the environment during the pharmaceutical manufacturing... Due to the low utilization rate of raw materials in China, the average output rate is only very low...	low efficiency of production	R6 R4
Most of pharmaceutical companies in China are small and medium-sized enterprises, lack of advanced equipment , adequate financial support and short of qualified sci-tech talents, leading to the low utilization rate of raw materials ...	small and medium-sized enterprises lack of advanced equipment low utilization rate of raw materials	R18
Some of small and medium sized pharmaceutical manufacturers have limited technological and financial capability to deal with these pollution discharges...	limited technological capability limited financial capability	R6 R9 R18
Leading to a serious shortage of human, material and financial resources to cope with the existing environmental problems... And eliminate backward manufacturing processes that usually with high energy consumption, low efficiency and high pollution...	shortage of human, material and financial resources backward manufacturing processes	R2 R7 R18
The pollution in pharmaceutical industry is aggravated by insufficient government regulation and weak media publicity with public scrutiny in China... there is not only need to improve poor environmental supervision and inadequate pollution controls ...	insufficient government regulation weak media publicity poor environmental supervision inadequate pollution controls	R2 R4 R5
The punishment for environmental violations in China is deficient in some extent, and the finest /cost of illegal activities of pollution is light ...	deficient punishment light fines	R5
At present, the weak environmental consciousness of the pharmaceutical industry still needs to be further improved...	weak environmental consciousness	R5 R7

4.4 Commercial corruption and bribery

Corruption in healthcare system and medicine sector spreading is an undeniable and inescapable reality in China (Jain et al., 2014). There have some improper and illegal sale behaviors during marketing processes in the Chinese pharmaceutical industry. When bribery and corruption intruded the pharmaceutical and medical system, it brought devastating negative influences on human wellbeing and social stability.

Respondent 3: The large amount of marketing expenditures focused on bribing doctors/physicians by some short-sighted companies. These improper and illegal sale behaviours are the very antithesis of patient's interests, it leads to high prices of medicines for patients, and undermine the quality of healthcare public services.

Respondent 18: Doctor bribery is a serious commercial corruption, which destroys fair market competition and violates normal market rule in the pharmaceutical industry. The patients become the biggest victims and suffer both physical and economic losses.

Hospital doctors are regarded as an occupational group related to bribery in China. Doctors have become the main target of condemnation for the unethical and illegal activity to promote prescription drugs (Cao, 2015), the reputation and credibility of doctors undermined due to the prevalence of medical bribery in China (Tam, 2011).

Respondent 6: Most of doctors are dissatisfied with their income and workload, and resorting to other means of compensation. Besides accepting kickback from drug companies, some medical professionals' taking "red pockets" from patients.

'Red packets' as extra subsidies refer to the monetary giving to doctors and other medical professionals by patients and their family members. It is a very commonly widespread practice in Chinese health services (Yang, 2013). Bribery is considered as unethical practices overflow in Chinese pharmaceutical industry, pharmaceutical companies have obligations to refrain from corruption and to enhance strong ethical standards (Rose-Ackerman & Yan, 2014).

Respondent 7: In recent years, the form of commercial bribery has gradually presented a "complex" trend. For example, some pharmaceutical enterprises are aware of the lack of funds in public hospitals, providing free medical equipment for these hospitals under the banner of "public donation", actually with the real purpose of bribing hospitals and doctors for increasing the sales of their products in hospitals.

Respondent 14: Bribing doctors has been more diverse and subtle in the changeable and covert way; it is more difficult to supervise and control the immoral and illegal behaviors.

China's medical system is dysfunctional in some extent, medical funds or investment are inadequate, doctors' legitimate income is insufficient (Liu et al., 2019), meanwhile, the eligible medical personnel resources are in short, most of hospitals turn to profit out of medicines (Yang, 2008). The medical corruption led to over-treatment and over-prescription, increased financial burden on patients, resulted in the deterioration of physician-patient relationships (Shi et al., 2018).

Respondent 11: Doctors' income is inadequate in China. Compared with most other countries, the remuneration of doctors in China is on the low side, which cannot match their high-risk, high-tech professional characteristics.

Some doctors complained their meagre incomes (Tian, et al., 2008) that are not in line with in doctor's work and contribution (Zhou et al., 2017), which partly incurred and fuelled corruption in healthcare system (Yang & Fan, 2012). Bribery taken by doctors has already become a "hidden rule" under the mode of "doctors' profit from drugs". Rebates and commissions are general latent rules in the pharmaceutical and healthcare fields (Tam, 2011). However, Doctors prescribe drugs with consideration of economic benefits is very dangerous to practice medicine for patients.

Respondent 17: China's healthcare system is distempered; medicinal pricing mechanism is distorted; and the work value of doctors underestimated with insufficient income. For these reasons, some doctors regard taking kickback as "reasonable compensation".

Chinese doctors were dissatisfied with their income (Lu et al., 2018) and the heavy workload. At the same time, the marketization of hospitals fueled the spread of the medical corruption behaviors in some extent. Some hospitals boost their income by encouraging the prescription of high-tech physical examinations and expensive medications (Blumenthal & Hsiao, 2005).

Respondent 10: Financial incentives mechanism and performance evaluation system for hospitals /physicians should be reconstructed.

The doctor-patient information is highly asymmetric (Pilnick & Dingwall, 2011). The real core resource in hospitals is actually doctors, because most patients have no ability to self-judge and treat their illness. They often have to rely on doctors, who have the right/power to decide which prescription medicines to use (Xu & He, 2019). The credibility of hospitals and doctors damaged by bribery and corruption, the overprescribing drugs led to the excessive medication and waste of medical resources (De ling, 2003), which results in poor quality of healthcare.

Respondent 1: The high-quality doctor resources are very scarce compared with the huge demand in the Chinese healthcare system, and medical professionals and doctors who are low substitutability in medical industry.

Respondent 9: Doctors who have absolute prescription rights with highly information asymmetry between doctors and patients, if doctors of public hospital receive kickbacks from pharmaceutical sales representatives, and prescribe medicines with economic benefits, they will lose the trust of patients, which result in seriously deteriorated the doctor-patient relationship.

Asymmetry information usually means uncertainty, some doctors abuse power in medical practice with this kind of advantage. It may arouse patients' aggression and lower their trust in doctors (Xu & He, 2019). This kind of immoral behaviours eroded the Chinese healthcare system, and undermined the relationship between doctors and patients (Lewis, 2007).

Respondent 7: Doctors' bribery will increase economic pressure and health losses of patients, undermine people's access to healthcare, resulted in setting up a vicious cycle.

Respondent 3: More importantly, the unreasonable exorbitant prescriptions resulted in patients suffered physical and economic losses, and reduce therapeutic effect and undermine quality of medical treatment, jeopardizing patients' health.

Doctors in hospital should abide by professional ethics (Zhang & Grouse, 2013) for the benefit and safety of patients. The medical profession is considered as a noble one, doctors cannot evade their moral responsibility in the face of the temptation from corrupt practices (Grumbach & Bodenheimer, 2005). There is need to establish a more favorable and moral environment in healthcare system (Zhu et al., 2018).

Respondent 16: The distorted incentive system and abuse of occupational power are crucial causes of commercial bribery, which undermined doctor's professional image and deteriorated the relationship between doctors and patients.

Respondent 12: Bribery in the pharmaceutical industry destroys the normal market competition. Pharmaceutical companies have to invest more money in the selling process. Because of the large amount of marketing expenditures focused on bribing doctors/ physicians in the hospital, and accordingly invest less amount of money in R&D, which is not conducive to corporate sustainable development and growth.

The corruption is a worldwide phenomenon in medical system, especially under the transitioning economies in China (Cohen, 2012). There are the existing loopholes in the related Law. Chinese governmental authority needs to intensify efforts to suppress corruption and curb commercial bribery (Diyun et al., 2010).

Respondent 5: The government needs to formulate effective and feasible laws and regulations to curb unfair competition and crack down bribery. The one of solution is to separate prescribing from dispensing medicines, to break the benefit connection between doctor diagnoses and drug sales.

The medical corruption on a grand scale is related to excessive treatment or grey income (Zhang, 2010). Separation of Dispensing from Prescription (SDP) needs to be further adopted and implemented (Yuan & Wang, 2016), in order to cutting off the rebate/kickback or other pecuniary benefit from prescription drugs in hospitals. The perverse incentives in hospitals are caused by the 'marketization' in healthcare system which have fuelled the immoral conducts and practices of doctors (He, 2010). There is need to rebuild the rational remuneration and encouragement scheme for medical practice, and reconstruct financial incentives for hospitals and physicians; more well-functioning administrative mechanisms are needed (Shi et al., 2018).

Respondent 4: Public hospitals are commercialized which are with responsibility for their own profits and losses, due to healthcare reform. Hospitals of marketization triggered the illegal and unethical behaviours of doctors and physicians to obtain income and profits from patients' pockets by providing over-treatment and over-prescription.

The over-marketization of health system results in misaligned incentives of hospitals. Public hospitals take the economical responsibility to earn revenue, which provided opportunities and incentives for hospitals to engage in bribery and corruption (Tam, 2011). It brought severe consequences, including inappropriate treatments, and rapid cost escalation, undermining the quality and outcomes of medical services (Rose-Ackerman & Yan, 2014), and reducing access to healthcare.

Hofstede's addressed that people in different nations have different perceptions from different cultures (Hofstede, 1980). Cultural distance caused the distinct diversity of understanding and implementing CSR practices, undertaking CSR activities could be culture-dependent and geographical differences (Ding et al., 2019).

Respondent 12: China has a highly success-oriented masculinity culture. Chinese people are more active in pursuing economic success, and tend to ignore CSR consideration.

Respondent 1: China is a country with a large power distance where status symbols are very important, and the privileges of superiors are taken for granted without enough supervision, it is more prone to abuse of powers with unequal working environment and unfair treatment, which exacerbate the unethical behaviours of bribery and corruption.

Guanxi as unique characteristic from Chinese traditional culture have a key role in Chinese business communication (Munro et al., 2013). Guanxi can actively facilitate business success and corporate development in Chinese context (Peng et al., 2016). However, abuse and improper use of Guanxi could bring obviously negative effects (Berger and Herstein, 2014) related to unethical and corrupt practices in healthcare and pharmaceutical industry, leading to a breeding ground for bribery and corruption, and impairing fair and reasonable competition mechanism.

Respondent 5: Guanxi is considered as the lubricant for corporate operations and activities. Chinese people are more willing to believe in "Guanxi" and build Guanxi with cooperative partners, which is regarded as the prerequisite of business success.

Respondent 10: The commercial operation of China has been influenced by Chinese cultural customs. Guanxi play an important role in business activities. Misuse of Guanxi in Chinese culture becomes the hotbed of bribery and corruption.

Respondent 7: China government has recognized the serious consequences of commercial corruption, and has begun to intensify legal efforts to curb this kind of unethical and corrupt practices in healthcare and medical system in China.

In China, the government authorities should strengthen anti-corruption efforts, and paying more attention with higher efficiency of supervision and heavier penalty to unethical pharmaceutical selling processes and illegal marketing behaviors. However, definitely it needs a long-term process (Jain et al., 2014) and making arduous efforts to intensify anti-bribery anti-corruption supervision, strengthen the law enforcement and make sure punishing measure in place to crack down on bribery in the Chinese pharmaceutical and healthcare system, establish fair and justifiable pharmaceutical market in an equitable way.

For more clearly presenting the data and information gathered from the interviews, the table 4.7 summarized the main viewpoints of CSR issues related to commercial corruption and bribery as follows:

Table 4.7: Summary CSR issues related to commercial corruption and bribery

Main ideas from interviews	Codes	Respondents
The large amount of marketing expenditures focused on bribing doctors / physicians by some short-sighted companies. These improper and illegal sale behaviors are the very antithesis of patient's interests...	bribing doctors improper and illegal sale behaviors	R3
Besides accepting kickback from drug companies, some medical professionals' taking "red pockets" from patients ...	accepting kickback taking "red pockets" from patients	R6
Bribing doctors has been more diverse and subtle in the changeable and covert way, which makes it more difficult to supervise and control these immoral and illegal behaviors... In recent years, the form of commercial bribery has gradually presented a "complex" trend ...	more diverse and subtle more difficult to supervise and control presented a "complex" trend	R7 R14
Doctor Bribery is a serious commercial corruption , which destroys the normal competition and violates normal market rule ... The patients become the biggest victims and suffer both physical and economic losses...	commercial corruption destroys the normal competition patients become the biggest victim	R18
Doctors' bribery will increase economic pressure and health losses of patients , undermine people's access to healthcare , resulted in setting up a vicious cycle...	increase economic pressure increase health losses of patients undermine people's access to healthcare	R2 R3
The deterioration of doctor's professional image and undermine the relationship between doctors and patients ...	deterioration of professional image undermine the relationship between doctors and patients	R16 R9
Patients suffered physical and economic losses, and reduce therapeutic effect and undermine quality of medical treatment, jeopardizing patients' health ...	reduce therapeutic effect jeopardizing patients' health	R3
Bribery in the pharmaceutical industry destroys the normal market competition. Pharmaceutical companies have to invest more money in the selling process ... and accordingly invest less amount of money in R&D , which is not conducive to corporate sustainable development and growth...	invest more money in the selling process invest less amount of money in R&D	R12

For more clearly presenting the data and information gathered from the interviews, the table 4.8 summarized the causes of CSR issues related to commercial corruption and bribery as follows:

Table 4.8: Summary causes of CSR issues regarding commercial bribery and corruption

Main ideas from interviews	Codes	Respondents
Doctors' income is inadequate in China... Compared with most countries, the remuneration of doctors in China is on the low side... the work value of doctors underestimated...	doctors' income is inadequate the work value of doctors underestimated	R6 R11 R17
China's healthcare system is distempered; medicinal pricing mechanism is distorted...	healthcare system is distempered medicinal pricing mechanism is distorted	R17
The high-quality doctor resources are very scarce compared with the huge demand... and medical professionals and doctors who normally are low substitutability...	high-quality doctor resources are scarce doctors who are low substitutability	R1
Doctors who have absolute prescription rights with highly information asymmetry between doctors and patients...	highly information asymmetry absolute prescription rights	R9
It is that the distorted incentive system and abuse of occupational power are crucial causes of commercial bribery in the pharmaceutical industry...	distorted incentive system abuse of occupational power	R16
Public hospitals are commercialized which are with responsibility for their own profits and losses... Hospitals of marketization triggered the illegal and unethical behaviors of doctors...	hospitals are commercialized hospitals of marketization	R4
Misuse of GUANXI in Chinese culture becomes the hotbed of bribery and corruption...	misuse of GUANXI the hotbed of bribery	R10

4.5 Pricing and access to medicines

The pharmaceutical industry has its own unique characteristic to enhance people's health and improve the living quality of people. If pharmaceutical companies do something against CSR and business ethics, it would greatly harm to healthy of human beings and wellbeing of society (Aggarwal & Angrish, 2017).

Respondent 7: CSR activities in pharmaceutical industry include providing easy access to healthcare and reasonable price of medicines for patients. Pharmaceutical companies have to do their part contributions in the betterment of the whole society and human beings to improve access to essential medicines for the people in needy, which should be mandatory in some extent instead of supererogatory duty or charity activity.

Medicines are a special commodity to help people live longer, healthier. This is necessary to research, development and manufacture of medicines and vaccines, for meet the people's need of medical and health services (Hunt & Khosla, 2010). Pharmaceutical companies should work with all others stakeholders, to find viable and feasible solutions aimed for broader access to medicines (Vian et al., 2017), such as, governments, civil society, and research institutions, etc.

Respondent 4: One of the motivations for engaging in CSR activities is to increase access to medicines, and to gain corporate reputation and bringing the competitive advantage for pharmaceutical companies, which is a matter of mutual benefit in a practical sense.

By the growing monopolization of intellectual property in the hands of a few powerful titleholders (Lanoszka, 2003), these leading pharmaceutical corporations hold the patent right of innovative drugs with unreasonably high prices, it blocks the access to some drugs and treatment, which is against the anti-monopoly law (Abbott, 2016).

Respondent 15: The oligopolistic feature of the pharmaceutical market gives some leading companies huge power to influence customers, which is especially amplified by top pharmaceutical MNCs (multinational companies) using their power and influence into other country in the whole world.

Respondent 11: Globalization is considered as a driving force to the commoditization of healthcare, some pharmaceutical companies pay more attention to economic benefits than social benefits. Some huge Pharmaceutical MNCs use their monopolistic position to set extremely high prices for their patent medicines.

For example, the price of the GlaxoSmithKline sold same medicines in China is higher than their prices in the other countries. Because of using more kickbacks to induce doctors for prescribing more drugs to patients in China (Fox, 2013).

There are many kinds of anti-competitive behaviors regarding to abuse of intellectual property rights, price fixing or price gouging (Owen et al, 2017). Moreover, corporate mergers and acquisitions resulted in the aggravated monopoly power (Zhang, 2014). This is necessary that the huge leading pharmaceutical companies should refrain from excessively pursuing the economic benefit, only for their business goals.

Respondent 5: Pharmaceutical companies have to abide by the Anti-Monopoly Law. Anti-competitive behaviors in business activities include price fixing, abuse of patent rights, mergers and acquisitions that have anti-competitive effects.

Before the recent round of healthcare reform, it is common that doctors could obtain 15% or more mark-up of profits by prescribing and selling medicines in China (Chen et al., 2014). It can create perverse incentives fueling over-prescription and irrational medicine use, and increases the cost of medical and healthcare service to patients.

Respondent 1: Doctors' bribery leads to over-prescription and over-treatment, which increases the cost of medical services, affects doctor-patient relationship and blocks patients' access to effective treatment. Healthcare system in China hindered and undermined by waste of medicinal resource, and inefficient and poor of service quality.

Respondent 2: Another reason contributed to the high-priced medicines is that a considerable proportion of drug prices took away by the middle link of marketing. A drug from pharmaceutical factory to the patient needs several layers of distributors and kickbacks, which makes the final price for customers several even dozens of times higher than ex-factory price.

The wastes and inefficiencies plaguing China's health care system are considered as one of the root causes of impeding access to medicines (Yip & Hsiao, 2009). The escalation of health expenditures is incurred by wasteful and inefficient public hospital system. It is urgent to reestablish medical professional norms and ethics, to protect patients' benefits and control cost inflation (Blumenthal & Hsiao, 2015).

Respondent 13: Particularly in China, there are 'grey zones' in the pharmaceutical industry, leading to more severe bribery, which partly cause by the 'marketization' of hospitals. Fundamentally, there is need to adjust financial incentives for hospitals and physicians; more attention should be pay to improve healthcare service quality.

Because of the commercial bribery of hospitals led to the extreme inflation of drug prices. Bribery and corruption made hundreds of millions of dollars transfer into the price of medicines (Yu et al., 2010), which increase the economic burden of patients. It is not a secret that "the high pricing, the big kickback" marketing mode in China. It is quite common that the doctors in China accept the rebate and commission (Shi et al., 2018). There is a hotbed of bribery and corruption due to unreasonable incentive mechanism, and immature market regulation and legislation (Yin & Jamali, 2016).

Respondent 8: There are loopholes in the legal system with insufficient enforcement in the face of anti-competitive practices and improper business behaviors. There is urgent need of the more rigorous regulation and well-functioning administrative mechanisms against unethical corrupt practices in healthcare and medicine industry.

A typical negative example, the famous pharmaceutical companies, GlaxoSmithKline, in China had the bribery scandal in drug marketing in July 2013 (Hvistendahl, 2013). Bribery and corruption result in the vicious market competition. It seriously damaged the interests of consumers and violated the commercial law (Saïd et al, 2019).

Respondent 5: Bribery and corruption result in an unfair competition environment and lack of transparency in the pharmaceutical industry will inevitably lead to unreasonable increases in drug prices, and undermines people's access to healthcare and medicines.

Respondent 4: Government needs formulate feasible regulation and legislation to curb and suppress these unethical and corrupt practices in pharmaceutical industry.

China government has made some efforts for anti-corruption. There is still some bad business behaviour spreading in pharmaceutical marketing to destroy the fair market competition environment, and bring extremely bad consequences to consumers (Foster, 2019). The accesses to basic healthcare and medicines need to improve for People's quality of life and social progress (Barber et al, 2013).

Respondent 8: The phenomenon of no enough money to see a doctor is prominent in poor area, especially in remote mountainous areas where have the comparative fall-behind medical condition, insufficient medical resource, and even some poor people have to give up treatment when serious diseases occur.

Respondent 3: It is severe scarcity and maldistribution of the qualified healthcare workforce, with inadequate medical infrastructure and equipment in remote rural areas. There are still a huge number of people who lack access to essential medicines.

The access to medicines is closely related to public health. According to The World Health Organization (WHO, 2011), essential medicines refer to the drugs that can meet the basic needs of public health in relevance with efficacy and safety and high of comparative cost effectiveness (Guan et al., 2011). Especially essential medicines and vaccines are the most widely used for preventing and curing diseases, regaining and recovering health (Stevens et al., 2017).

The pharmaceutical products are the crucial component of healthcare system, it is imperative need to improve the access to medical services for general public (Duong et al., 2019). There is a variety of ways in which pharmaceutical companies actively undertake CSR activities for improve access of medicines, including strengthen the R&D of innovative medicines; improving the quality and competitiveness of generic drugs; and provide safe, effective and affordable medicines with fair and reasonable prices (Huang et al, 2017).

Respondent 15: The backward R&D technical force in Chinese pharmaceutical industry leads to the high price of patent expired drugs and the low-quality domestic generic medicines with poor competitiveness.

However, innovative drug development faced with long R& D cycle, large investment and high risk (Paul et al., 2010). If pharmaceutical companies cannot gain sufficient profits, they will no longer have enough incentive to invest for R&D medicines.

Respondent 9: The immature of patent protection law will damage R&D enthusiasm of pharmaceutical enterprises to develop innovative drugs. All R&D of innovative drugs have to go through a long-term with huge investment and arduous development process.

Respondent 15: If pharmaceutical companies have no enough motivation to invest huge amounts of money in R&D innovative drugs, the medical industry will not be vigorous, without medical progress and treatment improvement.

Meanwhile, some pharmaceutical companies ignored health-related human rights, focusing more on their drug patents and maximizing profits, instead of improving the access to medicines for patients in need (Gruskin & Raad, 2010). This situation presented the controversial topic between medicinal access and economic benefit in pharmaceutical industry. However, providing affordable drugs to patients in need is a fundamental CSR implementation for consumers from pharmaceutical companies (Peukert & Fuggenthaler, 2009) with consideration of the individual right for health (Rumbold et al., 2017), to ensure affordable, reasonable and sustainable access to essential medicines across a population, for improving population health.

Respondent 7: The role of government in ensuring the well-being of their citizens normally includes access to basic necessary life-saving drugs and vaccines. Due to medicines are special commodity with healthy and cure function, governments should play a very essential role in regulating drug supply and price management.

Furthermore, in China, there are cumbersome bureaucracies that are complicated and cause delays in many areas with layers of overlapping authority in government agencies. To some extent, it reduces efficiency and increases difficulty of developing pharmaceutical industry (Zhou et al., 2017). It is necessary to speed up verification and approval system of qualified generic drugs and innovative-patented medicines into the Chinese pharmaceutical market, to meet patients' expectations and needs.

Respondent 5: Cumbersome bureaucracies in the low-efficiency approval process of patented drugs are complex and lengthy, which hinders the motivation and enthusiasm of pharmaceutical companies to R&D innovative drugs.

Universal health coverage (UHC) is one of the most prominent global health policies, which is to ensure everyone has access to qualified, fair and affordable healthcare services when needed (Yuan et al., 2019). In 2012, Health insurance coverage in China had already covered to more than 95% of the population (Yu, 2015). However, UHC in China is at the basic stage with inequality between different groups of people.

Respondent 6: China's national health insurance has characteristics with wide coverage, low level and lack of outpatient care, as well as cumbersome reimbursement procedure. The deficient and inadequate health insurance system needs to improve in China.

Respondent 12: China's health insurance has three major gaps, namely, the inadequate reimbursement of outpatient services, insufficiency guarantee the treatment of patients with serious diseases and chronic diseases, and medical insurance with local variation caused by different regional financial capacities in China.

There is still need of improving the social health insurance schemes towards a more equitable and efficient healthcare system in China (Meng et al., 2015), to ensure fair, affordable, and sustainable access to essential medicines.

Respondent 13: There are still a large part of the medical service and drug supply need the high out-of-pocket payment by patients, which mean advanced medical treatment and drugs still out of reach for many people in China.

As a part of China's new healthcare reform, the Chinese government released an Essential Drug List (EDL) in March 2009 and an updated version in March 2013 (Liu et al., 2017), to control drug prices to provide better access to medical services for the public (Burns & Liu, 2017), in order to protect or restore health and save lives, find better ways to enhance people's life quality.

Respondent 5: Government have taken actions during healthcare system reform related to increase the appropriateness of drug prices and improve access to healthcare through differential pricing, drug centralized procurement, pharmaceutical tendering, and so on.

Carrying out differential medicine pricing according to different patient's affordability is method to improve access to expensive innovative medicines (Danzon et al., 2015) for poor and vulnerable populations.

Respondent 17: Some patent drugs and innovative drugs monopolize in market competition with high prices. Government should take measures with more feasible and effective policies to promote drug access, in order to reduce expensive drug prices and alleviate heavy economic burden on patients.

Government agencies and regulators play an essential role in enhancing access to medicines (Hu, 2013). The China government has made some efforts to implement centralized drug procurement with bidding system for public medical institutions and hospitals; it is conducive to reducing the price of drugs, improving accessibility and affordability of medicines and healthcare services.

Drug purchasing with quantity called as GPOs (Group Purchasing Organizations) abroad, known as "centralized purchasing organizations" in China. GPOs negotiates with upstream suppliers (pharmaceutical enterprises or distributors) to obtain lower purchase prices by centralizing large-scale purchasing methods (Weinstein, 2006), in order to help downstream (medical institutions, hospitals, etc.) save costs, improve efficiency in cost-effective way (In et al., 2019).

Respondent 8: Tendering of medicine products can be put into practice to cut and fix the purchasing prices in the contract duration, in order to slash procurement cost for hospitals, reduce the economic burden of patients.

Pharmaceutical tendering is a cost-containment measure for medicine procurement, through competitive bidding on pharmaceutical pricing for control of pharmaceutical costs. It can be advantageous when medicine tenders are well planned, managed, and conducted (Maniadakis et al., 2018), to expand access to essential medicines at the affordable prices. In a word, governmental policy and regulation are encouraging transparent bidding in the process of drug purchase, for cutting down the prices and bringing a reduction in the burden of healthcare costs.

For more clearly presenting the data and information gathered from the interviews, the table 4.9 summarized the main viewpoints of CSR issues related to pricing and access to medicines as follows:

Table 4.9: Summary CSR issues related to pricing and access to medicines

Main ideas from interviews	Codes	Respondents
The oligopolistic feature of the pharmaceutical market gives some leading companies huge power to influence customers, which is especially amplified by top pharmaceutical MNCs... Some huge Pharmaceutical MNCs use their monopolistic position to set extremely high prices for their patent medicines...	oligopolistic features huge power monopolistic position high prices	R15 R11
Especially in remote mountainous areas where have the comparative fall-behind medical condition , insufficient medical resource ... It is severe scarcity and maldistribution of the qualified healthcare workforce, with inadequate medical infrastructure and equipment in remote rural areas ...	fall-behind medical condition insufficient medical resource inadequate medical infrastructure in remote rural areas	R3 R8
Doctors' bribery leads to over-prescription and over-treatment, which increases the cost of medical treatment, affects doctor-patient relationship and hinders patients' access to effective treatment ...	doctors' bribery over-prescription increases the cost hinders patients' access to treatment	R1 R2 R13 R4 R5 R8
Anti-competitive behaviors in business activities include price fixing , abuse of patent rights , mergers and acquisitions that have anti-competitive effects...	price fixing abuse of patent rights	R5
The backward R&D technical force in Chinese pharmaceutical industry leads to the high price of patent expired drugs and the low-quality domestic generic medicines with poor competitiveness...	backward R&D technical force low-quality generic medicines	R15
Cumbersome bureaucracies in the low-efficiency approval process of patented drugs are complex and lengthy, which hinders the motivation and enthusiasm of pharmaceutical companies to R&D innovative drugs...	tedious Bureaucracies the low-efficiency approval process	R5 R14
China's national health insurance has characteristics with wide coverage , low level and lack of outpatient care inadequate reimbursement of outpatient services... and medical insurance with local variation caused by different regional financial capacities in China...	national health insurance wide coverage, low level lack of outpatient care medical insurance with local variation	R6 R12

For more clearly presenting the data and information gathered from the interviews, the table 4.10 summarized the causes of CSR issues related to pricing and access to medicines as follows:

Table 4.10: Summary causes of CSR issues regarding pricing and access to medicines

Main ideas from interviews	Codes	Respondents
Globalization is considered as a driving force to the commoditization of healthcare , some pharmaceutical companies pay more attention to economic benefits than social benefits...	commoditization of healthcare more attention to economic benefits	R11
Bribery and corruption result in an unfair competition environment and lack of transparency ...	bribery and corruption unfair competition environment lack of transparency	R4 R5
Some patent drugs and innovative drugs monopolize in market competition with high prices...	Some patent drugs monopolize in market competition	R15 R17
There are loopholes in the legal system with insufficient enforcement in the face of anti-competitive practices and improper business behaviors...	loopholes in the legal system insufficient enforcement	R2 R7 R8
Partly cause by the 'marketization' of hospitals . Fundamentally, there is need adjust financial incentives for hospitals and physicians...	marketization of hospitals need adjust financial incentives	R13
Doctors' bribery leads to over-prescription and over-treatment... Healthcare system in China hindered and undermined by waste of medicinal resource , and inefficient and poor of service quality ...	hindered and undermined waste of medicinal resource inefficient and poor of service quality	R1
Deficient and inadequacy health insurance system needs to improve in China... There are still a large part of the medical service and drug supply need the high out-of-pocket payment by patients ...	deficient health insurance system high out-of-pocket payment by patients	R6 R12 R13
The immature of patent law will damage R&D enthusiasm of pharmaceutical enterprises to develop innovative drugs... If pharmaceutical companies have no enough motivation to invest huge amounts of money in R&D innovative drugs...	immature of patent law damage the R&D enthusiasm no enough motivation	R9 R15
A considerable proportion of drug prices took away by the middle link of marketing. A drug from pharmaceutical factory to the patient needs several layers of distributors and kickback ...	several layers of distributors and kickback	R2

4.6 Waste of medical resources

Medical resources and pharmaceuticals are obviously important for public service to ensure the health of human being. The waste of medical resources is accompanied by the inappropriate use of medicines, which not only influences on individual and public health, but also significantly brings negative consequences for ecological system and natural environment. The squander of healthcare and pharmaceutical resources in China is shocking (Zhang et al., 2016).

Respondent 5: The waste of medical resources has become an obstacle endangering healthcare system in China. These wastes and low-efficient healthcare services hinder the achievement of the new healthcare system reform in China to a certain extent.

It is commendable that China nearly succeeded in approaching universal healthcare coverage, but the current medical services impeded by inefficiency and low quality of services, and scarcity of qualified medical talents, and imbalanced medical resource distribution, which makes it difficult for actually benefiting patients (Yip et al., 2018).

Respondent 1: For China's health service system, one of the biggest problems is about how to make the healthcare expenditure more efficient, reduce the huge waste caused by over-examination, overuse of drugs, over-treatment and industrial grey income.

Respondent 6: There is a lot of waste of medical resources in China's medical system. A lot of diagnosis and treatment are unnecessary and redundant. How to build the cost-benefit efficiency of healthcare service is a big challenge.

It believed that China government should increase investment for healthcare and pharmaceutical field, under the precondition of ensuring the effective use funds and resources in medical and healthcare services, avoid wasting (Liu et al., 2017). There is an astonishing waste phenomenon in the field of pharmaceuticals in China, which lead to soaring healthcare expenditure. Excessive medical treatment means that doctors violated medical norms /ethics, with diagnoses deviated from the actual needs of patients. It indicated unprofessional conduct in medical practice, including over-examination, over-treatment, over-medication and so on (Wang, 2017).

Respondent 7: The direct motivation of doctors to over-prescription is through providing patients with excessive medicines for obtain more benefits including illegal grey income.

Respondent 11: In the meantime, low-income doctors do not receive reasonable return /wage for their professional knowledge and skills. The welfare and incomes of doctors need to improve... Doctors are tempted by bribes, including kickbacks and commissions.

Public Hospitals are commercialized and responsible for their own profits and losses as well as authorized to earn revenue, which provides incentives for corruption (Tam, 2011). Hospitals unilaterally pursue the economic growth, which aggravated these bad unethical behaviors of abusing medical resources (Cornelius-Schecter, 2016). Profit-motivated doctors are tempted by illegal income of monetary or material gains, such as drug commissions, test kickbacks, and red packets, etc (Bloom et al., 2001).

Respondent 8: This kind of behaviors has brought tremendous financial burden to patients and impeded the access of seeing a doctor, increased the cost of health services, and resulted in huge waste of medical resources.

With given increasing autonomy to public health institutions, these immoral conducts and illegal behaviors in the process of practicing medicine spread, caused by various inappropriate incentives, especially revenue-related bonuses in public hospitals (Liu and Mills, 2003; Hsiao, 2008). It has further fueled the unreasonably rapid inflation in healthcare costs and expenditures (Tang et al., 2012), increased patients' financial burden (He, 2010), and resulted in rising costs and waste of medical resources.

Respondent 13: Marketization of hospitals tends to purely profit seeking resulted in deteriorated relationship between doctors and patients. This market-orientation of governance in hospital will inevitably lead to the disorderly prescription of drugs.

Over-medication resulted in wasting medicines, caused by reasons that doctors who are the decision makers of medicine consumption, patients with little choice only pay the expenses of the chosen medicines by doctors. The information of medicines is asymmetric between suppliers and demanders (Hongyou et al., 2011). Sometimes doctors played two roles: treating diseases and promoting medicines (Wang, 2017).

Medical information asymmetry existed between manufacturers, regulators, medical professionals and consumers (Dew, 2014), which lead to the non-transparent and unequal power in pharmaceutical industry. Due to the serious information asymmetry between consumers and providers in the medical market, consumers who are in a passive position without professional knowledge, can only follow the instructions and accept the consumption arrangement (i.e., the prescription) from doctors. Sometimes, doctors' diagnosis and prescriptions do not focus on curing diseases effectively, but with consideration about how to make profits (Eggleston, 2012), which consequently results in unnecessary treatment or excessive medication.

Respondent 3: As the special commodity, there is asymmetrical information of medicines; choosing medicines mainly depending on profit-motivated doctors' decision is very dangerous situation. Doctors have right to decide the consumption and utilization of medicines, which significantly affects the price and dose of medicines.

The unprecedented escalation of health expenditures in China is incurred or caused by wasteful and inefficient public hospital system (Yip & Hsiao, 2009). It is urgent to reestablish medical professional norms and ethics to protect patients' benefits and control cost inflation (Blumenthal & Hsiao, 2015).

Respondent 2: Conducting "big prescription" refers to prescribe medicines to patients that exceeded the patient's need. The patients could not need to eat them all and throw them away in the end, which accumulated and gradually formed waste.

Respondent 8: Irrational/misuse medicines are associated with significant morbidity, mortality, adverse drugs reactions (ADRs), poor outcome of treatment, and financial loss. Wastes and inefficiencies are plaguing China's health care system.

Additionally, with the improvement of people's living standards, the requirements of medical quality and health service are gradually enhancing. Rich people seek the best medical care. Even for minor diseases, they want the best experts to diagnose for them, forming "small illnesses look for experts" atmosphere in society. Chinese public hospitals towards universal healthcare coverage are impeded by inappropriate and less cost-effective medical services, with the wasting of national medical health resources (Eggleston et al., 2008; Barber et al., 2013).

Respondent 11: Wealthy people seek the best medical services. No matter how minor illness, the rich patients always look for experts, which is wasting of medical personnel resources, and take up valuable time and energy of medical specialists for petty ailments. It leads to not enough medical experts to diagnose for patients who are really in need.

It is evidently that the graded diagnosis and treatment could improve insufficient utilization and unreasonable allocation of medical resources (Zhang et al., 2017). Implement a multi-tiered diagnosis and treatment system is to build a more efficient public hospital institution (Li & Fu, 2017), to deal with the issues of wasting medical resources, inefficiency and extravagant cost in healthcare system (Lian et al., 2019).

Respondent 8: Meanwhile, in rural areas, there still have a large number of patients who have not gotten adequate healthcare. Moreover, some of them even give up treatment because of lack of access to the needed medicines and treatment.

In fact, there is a huge gap between urban and rural areas in allocation of medical resources and health services (Liu et al., 2015), along with maldistribution of the qualified medical professionals, adequate infrastructure and high-quality medication in remote rural areas. The government plays a critical role to reduce the expensive healthcare bills and provide everyone equal and fair access to healthcare services.

Respondent 4: There are unequal allocation of medical services in China, uneven public investment and funds in healthcare resources, deficient health insurance system, which were caused by uneven development of economy with regional disparities, and the huge differences between urban and rural areas in economic conditions.

On the one hand, wealthy patients in the cities are squandering medical resources; on the other hand, qualified medical resources are inadequate in remote rural areas. Government needs to pay more attention to improve medical and sanitary condition in remote areas, reallocate medical resources fairly and reasonably nationwide.

Respondent 9: The Chinese tend to have strong consciousness of self-treatment and self-medication. They often buy OTC according to their experience or friend's advice, and keep trying to buy different kinds of drugs, which lead to over-purchased medicines.

Improper self-medication is related to use of expensive low-efficacy, low safety drugs without proper instructions and guidelines. It is a urgent need for the public education and publicity measures to raise general awareness of the knowledge and practices for rational use medicines (Thawani, 2010). Advocating appropriate use of medicines is significantly important to curb drug waste (Holloway & Dijk, 2011).

Respondent 7: Non-standard (or false) propaganda of drugs induces a large number of unnecessary medicine purchases. Inappropriate or exaggerated medicine advertisement stimulated people's desire to buy more medicines, and caused excessive consumption.

The exaggerated OTC propaganda and advertisement increased people's desire to buy medicines (Khanwelkar et al., 2019), in fact, even led some consumers to buy large quantities of placebos that actually have little therapeutic effect. Medicines are not only commodities, but also play an important role in protecting health of people. Therefore, Government should improve the regulation and control in the production, sale, circulation and use of medicines, and strengthen safety and quality supervision (Sun et al., 2008), to safeguard consumer interests and avoid unnecessary waste.

Respondent 2: There is need more action and effort to improve inadequate government regulation and inappropriate control of medicine resources in order to reduce the waste.

Government should play a leading role, support medical service system to be more effective and diversified in the public interests, including expand coverage of social medical and commercial health insurance, state subsidy, redesigning the payment schemes, in order to reduce the proportion of consumer self-payment (Li & Fu, 2017).

Respondent 16: China's medical system should establish a series of countermeasures, improve the poor informatization communication and lacking transparency, establish a standard treatment procedure, and provide support for monitoring the service quality of hospitals, which make the patient's medical treatment more convenient and effective.

Environmental pollution result in damage and waste of resources (Larsson, 2014), especially some of contamination from pharmaceutical manufacturing brought the serious pollution of the air, water and soil, which is very difficult to reverse.

Respondent 12: It is important to adopt advanced production technology and equipment, to eliminate backward manufacturing process which is with high energy consumption, low utilization rate of resource, high pollution, etc.

Environmental protection is also an effective way to avoid the wasting of resources, because when pollutant release enters natural environment, which will need to waste of more workforces and more expenditures to eliminate and control of them.

Respondent 5: Pollution from medical waste discharge pollutes other natural resources in surrounding environment, and cause damage and contamination of other resources.

The characteristic of the pharmaceutical industry in China have known for its mass-production of low-level generic drugs (Kermani & Zhou, 2007). Some of low-quality generic medicines are inefficient, duplicate, which is waste of resources and lack of international competitiveness (Mossialos et al., 2016). Generic medicines have lower prices compared to original counterparts as interchangeable one (Rana & Roy, 2015). However, many Chinese generic medicines have not achieved the same therapeutic efficacy as the original patented ones. Overcapacity of low-end, low-effective and low-value drugs resulted in huge waste (Huang et al., 2013).

It has been attracting much attention about the ecological threat from environmental damage and resource excessive consumption.

Respondent 15: A large amount of money has invested in low-end products with low technology content and poor efficacy, causing huge waste. If drugs are low effective, they will delay treatment and waste resources, with insecurity and negative effects.

Respondent 10: In China, the quality of some domestic generic drugs is far less than original drugs, and a part of them are even unsafe and ineffective drugs. Low-level imitation and vicious low-price competition lead to poor profitability.

Pharmaceutical patents provided companies with the exclusive rights to innovative medicines for a preset period. Patent cliff denotes the marketing share and revenues could "fall off a cliff" with sharp decline in sales and profit when patented products go off patent (Jimenez, 2012). After patent expiry, these original drug products could be replicated and replaceable by the generic drugs (Song & Han, 2016) sold with same curative effects at much cheaper prices (Lines, 2012). It could be huge savings of pharmaceutical expenditures by shifting from original medicines to generic products, in order to control the healthcare costs and improve the access to medicines.

Respondent 11: Strengthen the power and ability of technological innovation, enhance the quality of generics, and improve the overall efficiency of manufacturing medicines, to reduce the waste of resources.

It is disconcerting that the backward technical force in China leads to the lack of high-quality domestic generic drugs with competitiveness as replacement after patent expiration. There are no "patent cliffs", no adequate domestic high-quality generic medicines become equivalent alternatives with low prices to benefit the patients in China (Wei & Liu, 2013).

There are still remained gaps and challenges for reducing the waste and establishing cost-effective and resource-efficient medical system, though the China's healthcare reform already has made remarkable progress in a certain extent (Eggleston et al., 2008). Chinese public hospitals aimed at extending universal healthcare coverage, which are impeding by improper profit-oriented operation and incentive mechanism, resulted in the less cost-effective medical services and the waste of national medical resources (Barber et al., 2013).

For more clearly presenting the data and information gathered from the interviews, the table 4.11 summarized the main viewpoints of CSR issues related to waste of medical resources as follows:

Table 4.11: Summary CSR issues related to waste of medical resources

Main ideas from interviews	Codes	Respondents
Make the existing expenditure more efficient; reduce the huge waste caused by over-examination, overuse of drugs, overtreatment ...	over-examination overuse of drugs overtreatment	R1 R2 R6
This kind of behaviors has brought tremendous financial burden to patients and impeded the access of seeing a doctor, increased the cost of health services , and resulted in huge waste of medical resources...	tremendous financial burden increase the cost of health services	R8
Wealthy people seek the best medical services. No matter how minor illness, the rich patients always look for experts, which is wasting of medical personnel resources , and take up valuable time and energy of medical specialists for petty ailments . It leads to not enough medical experts to diagnose for patients who are really in need...	wasting of medical personnel resources medical specialists for petty ailments	R11
Pollution from medical waste discharge pollutes other natural resources in surrounding environment, and cause damage and contamination of other resources ...	waste discharge contamination of other resources	R5 R12
A large amount of money has invested in low-end products with low technology content, poor efficacy , causing in huge waste...	invested in low-end products low technology content poor efficacy	R15
Unequal allocation of medical services in China, uneven public investment and funds in healthcare resources, deficient health insurance system ...	unequal allocation of medical services uneven public investment and funds deficient health insurance system	R4
The quality of some domestic generic drugs is far less than original drugs, and a part of them are even unsafe and ineffective drugs . Low-level imitation and vicious low-price competition ... If drugs are inefficient, they will delay treatment and waste resources...	unsafe and ineffective drugs low-level imitation vicious low-price competition	R10 R15

For more clearly presenting the data and information gathered from the interviews, the table 4.12 summarized the causes of CSR issues related to waste of medical resources as follows:

Table 4.12: Summary causes of CSR issues regarding waste of medical resources

Main ideas from interviews	Codes	Respondents
The direct motivation...through providing patients with excessive medicines for obtain more benefits including illegal grey income ... Mainly depending on profit-motivated doctors ' decision is very dangerous situation....	illegal grey income profit-motivated doctors	R7 R3 R1
There is asymmetrical information of medicines ... Doctors have right to decide the consumption and utilization of medicines... Improve the poor informatization communication and lacking transparency ...	asymmetrical information of medicines poor informatization communication lacking transparency	R3 R16
Low-income doctors do not receive reasonable return /wage for their professional knowledge and skills. The welfare and incomes of doctors needs to improve...	Low-income doctors not receive reasonable return	R11
Marketization of hospitals tends to purely profit seeking resulted in deteriorated relationship between doctors and patients. This market-orientation of governance in hospital will inevitably lead to the disorderly prescription of drugs....	marketization of hospitals market-orientation of governance	R13
Irrational/misuse medicines are associated with significant morbidity ... adverse drugs reactions (ADRs), poor outcome of treatment , and financial loss. Wastes and inefficiencies are plaguing China's health care system...	Irrational/misuse medicines significant morbidity adverse drugs reactions poor outcome of treatment	R8
The Chinese tend to have strong consciousness of self-treatment and self-medication. They often buy OTC according to their experience or friend's advice, and keep trying to buy different kinds of drugs, which lead to over-purchased medicines	strong consciousness of self-treatment over-purchased medicines	R9
Improve inadequate government regulation and inappropriate control of medicine resources in order to reduce the waste...	inadequate government regulation undesirable control of medical resources	R2 R16
Non-standard (or false) propaganda of drugs induces a large number of unnecessary medicine purchases. Inappropriate or exaggerated medicinal advertisements stimulated people's desire to buy more medicines, and caused excessive consumption ...	non-standard propaganda inappropriate medicinal advertisements excessive consumption	R7

4.7 R&D and patented medicines

Innovative medicines are playing an extreme important role in healthcare system for curing, treating, and preventing diseases (Ni et al., 2017). The rapid growth of the pharmaceutical industry in China should thank to the increasing demand and growth expectation to develop high levels of innovation medicines for unmet medical needs, along with the rapid increasing economic development with wealth (Qi et al., 2011).

Respondent 13: It is one of core CSR commitments to develop a new medicine to treat the previously incurable diseases to benefit humanity. R&D of innovative medicines for life-threatening diseases has great significance of enhance CSR performance.

Most important contribution of pharmaceutical innovation is long-term improvement in population health (Lichtenberg, 2016), to enhance human survival longevity and health status. Innovative drugs are the essential resources to enhance public health. Pharmaceutical industry has remarkable growth in R&D investment which is keeping rising in China. Along with booming economy, Chinese pharmaceutical companies need to switch its focus from imitation to innovation in order to make domestic drug products more competitive in the global market (Ding et al., 2011).

Respondent 11: The innovative technology of pharmaceutical industry is still in a backward state. Chinese pharmaceutical companies need to transform their operation models from made-in China to discovered-in China in the pharmaceutical sector.

Respondent 3: Chinese pharmaceutical and healthcare industry is lack of innovative medicines and cutting-edge treatments.

In recent years, the capability of drug R&D in China has remarkably improved, but there is still a significant gap compared with developed countries (Grimes & Miozzo, 2015). It is need to enhance R&D power and innovative technology (Jiang, 2010). Many domestic pharmaceutical companies in China are suffering from a shortage of real cutting-edge innovative medicines in contrast to these western leading MNCs (Hu et al., 2015). In China, the characteristics of pharmaceutical industry is known famous for its mass-production of low-level generic drugs for a long time; and the same times, China as a 'world factory' of active pharmaceutical ingredients (APIs) with little involved in real innovative medicines (Kermani & Zhou, 2007).

Respondent 9: Chinese pharmaceutical industry has some characteristics including the high fragmentation of industrial structure, serious product homogeneity and weak R&D intensity, which are the major barriers to new drug development in China, resulted in poor international competitiveness of domestic medicine products.

There still are a series of issues related to technological progress in the Chinese pharmaceutical industry (Xu & Sim, 2018). Most of pharmaceutical manufacturers in China normally focused on producing generic drugs (Ni et al., 2017), resulted in the excessive of the duplicated products with poor international competitiveness (Chan & Daim, 2011); meanwhile, insufficient attention and inadequate investment in R&D for groundbreaking medicine products with high technology content.

Respondent 12: Most of pharmaceutical manufacturers are small and middle-scale enterprises (SMEs) in China without adequate resources for R&D. They usually tend to develop generic drugs in order to obtain short-term return without the burden of pursuing new drug development with high technical innovation and huge investment.

Respondent 18: Due to lack of R&D resources for new drug discovery and development, most of SMEs engaged mainly in low-value-added imitation activities for generic medicines rather than innovation activities for patented medicines with a breakthrough.

Especially for SMEs with various constraints faced with the shortage of financial resources, technical capabilities and available high-tech human talents (Freel, 2000). Most of Small and Medium Sized pharmaceutical companies cannot afford R&D investment (Chu & Liang, 2010), which requires a lot of manpower, material and financial resources to undertake innovative R&D activities (Chang-xiao, 2012).

Respondent 5: Few pharmaceutical companies in China are willing to invest innovation, most of them prefer to spend money on advertising and marketing rather than R&D. insufficient R&D investment makes it more difficult to enhance R&D capability.

The pharmaceutical industry has largely duplication of production for generic drugs, along with a modest share taken by innovative patented medicines in China (Webber, 2005). It is low profit margins to produce generic drugs with low technology in fierce pharmaceutical market competition, and excessive development of generic drugs resulted in over-capacity in the high homogeneous of products (Luo, 2008).

Respondent 2: It is undeniable that China is a big country of producing generic drugs with scarce innovative capability for original drugs. These top western pharmaceutical companies have remained the dominant players and leading roles of original medicines with patents in the Chinese pharmaceutical market.

China largely lags behind in both R&D investment and patented medicines (Li, 2008). It is relatively speaking that the majorities of domestic pharmaceutical companies in China started late with relatively shortage of capital and technology (Chang & Park, 2012), which often have not enough R&D capability to compete with western MNCs.

Respondent 3: Low-quality generic drugs produced by domestic pharmaceutical enterprises are not market competitiveness, which resulted in some patented products without “patent cliff” after patent expiry in China. Excessive producing /overproduction of duplicate generic drugs with low efficacy and low technology led to a large number of inferior generic drugs in excess, while innovative drugs in short supply.

When patented products go off patent protection period, the marketing share and revenues could “fall off a cliff” with a sharp decline, in the face of tough competition from generics that sold at much cheaper prices with same curative effects (Grimes & Miozzo, 2015). However, the dubbed “patent cliff” phenomenon was significantly less distinct in China (Wei & Liu, 2013) due to the low-quality generics made by domestic pharmaceutical companies, there are no adequate, appropriate high-quality domestic generics as equivalent alternatives with low prices to benefit the patients in China.

Original/innovative drugs refer to drugs with independent intellectual property rights and patents (Li, 2008). The gradual improvement of the medicine patent system and intellectual property rights in China will stimulate more pharmaceutical enterprises to engage in innovation activities (Liang et al., 2011).

Respondent 9: The immature of patent law damage R&D motivation and enthusiasm of pharmaceutical enterprises to develop innovative drugs. R&D original groundbreaking medicines has to go through a long-term process with huge investment, which can be very time consuming, extremely costly and high risk in arduous development process.

Pharmaceutical industry has faced rapid growth, along with driving innovation and upgrading of pharmaceutical technologies (Savarese, 2017). Developing innovative medicines with technological breakthrough need a lengthy, risky, and expensive endeavor (Kaitin, 2010), with little chance of a successful outcome (Caldwell, 2016). Therefore, pharmaceutical companies highly depend on patent protection, to ensure generous economic returns after risky investments in innovation (Williams, 2017).

Respondent 16: R&D of innovative drugs requires huge investments. It is difficult for pharmaceutical enterprises to recover R&D costs under inadequate patent protection. Although patent protection in China has improved year by year, there are still some deficiencies in laws related to the protection of pharmaceutical patents, which make Chinese pharmaceutical companies unwilling to invest massively in R&D drugs.

Medicine innovation is a complex process with large investment, time-consuming and huge risks. Moreover, the success rate is extremely low (Kaitin, 2019). Patent system has stimulated the enthusiasm for invention and creation (Grabowski et al., 2015). The core of the discussion is whether it is reasonable that those pharmaceutical companies use patents as the monopolistic privileges to sell their original drugs at a high very price (Collier, 2013).

Respondent 9: On the other hand, if pharmaceuticals are not enough profitable, there will be not enough incentive to R&D innovative medicines. On the other hand, if the drug prices remain high, the ordinary people cannot afford these high-priced medicines.

Currently, most of pharmaceutical companies have little interest in R&D orphan drugs, (Bruyaka et al., 2013), which intended to treat/cure rare diseases (Berman 2014), selling to only a small group of patients with limited market. Orphan drugs for rare diseases (Attwood et al., 2018; Aronson, 2006) would not be profitable without government assistance.

Respondent 15: Another CSR issue related to R&D is the scarcity of innovative orphan drugs for rare diseases. Few pharmaceutical companies are willing to develop orphan drugs because of their high risk, huge investment and long-term process, with weak economic incentives and lack of commercial value under normal market conditions.

However, pharmaceutical companies develop cutting-edge drug that is not only for profit-oriented, more importantly for developing life-saving medicines for health and wellbeing of human beings (Herder, 2017).

Respondent 14: Chinese pharmaceutical companies mostly have weak innovative awareness and backward R&D consciousness failed to realize the importance of R&D.

Respondent 10: Indeed, deficient legislative guarantees and lacking of effective policy incentives hinder the development of innovative medicines in some extent.

R&D groundbreaking medicines with ultimate aims are to eradicate diseases and relieve suffering of patients. This is a long-standing controversy that whether only patents can stimulate enthusiasm and arouse motivation to research and develop new medicines, and if there is any other way as alternate incentive mechanism for drug R&D in the future (Love et al., 2007).

Respondent 17: How to deal with the obvious contradiction between corporate right to profits and customer right to health, between focusing on profit-driven for companies' benefit and health-driven for public expectation.

From the market point of view, pharmaceutical products in China are remarkably booming due to a combined effect of economic growth, health system reform, aging population and urbanization, and so on (Spigarelli & Wei, 2012). Especially China has a huge population with a huge demand for medicines, which will be a substantial pharmaceutical market with a good prospect. With the improvement of patent system in China, developing new drugs will have huge market and ample economic returns, which is considered as powerful motivation and driving force to R&D medicines.

Pharmaceutical is technology-intensive knowledge-intensive industry, companies with advanced technology and capabilities will take the leading position (Rikap, 2019) and hold competitive advantage. The western pharmaceutical MNC giants have more cutting-edge technology and richer experience for R&D (Grimes & Miozzo, 2015), which is core competitive ability for pharmaceutical companies (Schuhmacher et al., 2016). In a sense, the pharmaceutical industry is monopolized and dominated by those top MNCs with latest R&D capability (Chaudhuri, 2012), which have absolute predominance in pharmaceutical market (Rose-Ackerman & Yan, 2014).

Respondent 4: Leading western MNCs have powerful R&D advantages in China including abundant capital, technological superiority, strong innovation ability and rich R&D experience, which mean high pricing of medicines from monopoly and obtaining rich economic profits.

However, the monopolization in the pharmaceutical industry will affect the access to medicines and the benefits of consumers. The government needs to formulate the corresponding laws and regulations to effectively reduce the marketing exclusivity and oligopoly market (Spitz & Wickham, 2012), especially these top pharmaceutical MNCs who able to charge monopoly top-of-the-range prices.

Respondent 3: There is still a big gap relevant to medical technology between China and developed countries. There is a lack of innovation platform, backward R&D capability, weak R&D consciousness, shortage of funds and talents in the Chinese pharmaceutical industry.

The success of research and development of new drugs requires the efforts of talented employees. Companies need to seek, attract and retain talented employees with specialized knowledge and professional skills, which provides strong manpower support for research and development of innovative drugs (Hejase et al., 2016).

Respondent 7: The lack of qualified professional talents is one of the main obstacles to the rapid development of pharmaceutical industry in China. It is necessary to train and cultivate R&D personnel, improve welfare to retain excellent high-tech talents, and activate the enthusiasm and initiative of employees for medicine R&D.

Pharmaceutical companies require more high-quality specialized talents especially for the work force of R&D department in pharmaceutical companies (Sharda, 2016). Pharmaceutical corporate survival and development relies on the strength and power of its talented employees (Tajuddin, Hassan, Syed, & Ali, 2016).

Respondent 10: The shortage of R&D human resource is one of reasons that lead to inadequate R&D capability, slow upgrading, high repetition and imitation rates of domestic pharmaceutical products.

In the past, drug approvals in China were often prolonged which greatly discouraged and frustrated the enthusiasm of pharmaceutical corporations to develop original products (Luo, Y. 2008). Recently, Priority Review and Approval is a new regulation established by the NMPA for medical products with urgent needs (ye et al., 2019). The Chinese government should figure out more effective regulation and legislation to guarantee and boost the development of R&D innovative drugs (Xu et al., 2018).

Respondent 5: The low-efficiency approval process of patented drugs is complex and lengthy, which hinders the enthusiasm of pharmaceutical companies for R&D original drugs. It is necessary to accelerate the approval process for innovative medicines.

The new model of pharmaceutical R&D in China should be to establish the close cooperative partnerships among universities, institutions and companies (Munos, 2010). Nowadays, some scientific-research achievements and publications related to innovative pharmaceuticals written by Chinese scholars from research institution have not translated into the ultimate outcome of original medicines (Ni et al., 2017), which slowed down the pharmaceutical innovation and development, resulted in R&D output for ground-breaking medicines in China falls behind.

Respondent 12: There is the need to build a bridge between academic researches and innovative products. However, it always is challenging that improving the issue of lack collaboration between research institutions and pharmaceutical companies, in order to integrate pharmaceutical science and industry.

Outsourcing as a strategic approach could make resource flexibility and increase cost effectiveness (Dong & Tang, 2017). Contract Research Organizations (CROs) mean providing R&D services to pharmaceutical companies (Gummerus et al., 2016), which outsource R&D activities to control R&D costs and prompt R&D efficiency (Steadman, 2018). China with huge market potential is becoming the preferred destination for outsourcing parts of pharmaceutical R&D (Xia & Gautam, 2015).

Respondent 3: However, the Chinese CRO services have less competitiveness compared with the counterparts from western countries, because some of them are in start-up and early stage, which are not fully developed and effectively utilized.

Respondent 15: Some of benefits from CROs include providing specialized knowledge and skills, the advanced expertise and technical support, facilitating a rapid development of special technological sections for pharmaceutical companies. Additionally, the companies can spread risk by outsourcing various R&D tasks to CROs.

Consequently, the pharmaceutical industry has started to attach great importance to establish the cooperation and partnership relations with outside Contract Research Organizations (CRO) (Hassanzadeh et al., 2014) which are increasingly considered as strategic partners for companies and have a growing appreciable impact on the research direction and success in development of pharmaceutical R&D (Colin, 2015).

In recent years, pharmaceutical market is expected to achieve the robust growth in China with increasing R&D expenditures for innovative drugs, to meet increasing demand of new R&D medicines. However, the pharmaceutical industry in China is currently still in the stage with low technology (Ni et al., 2017), high repetition, low economic efficiency, compared with western countries.

Respondent 1: It is highly challenging to change the reputation of made-in-China to discovered-in-China for reshaping Chinese pharmaceutical industrial structures, in order to achieve an innovative-driven pharmaceutical industry in China.

Pharmaceutical innovation contributes to improve the population health and people's quality of life (Lichtenberg, 2016), in order to enhance human survival longevity and health promotion, in order to bring hope and relieving pain to more sick people. R&D capability of innovative medicines to generate technological breakthroughs is crucial to maintain marketing competitiveness for pharmaceutical companies. Nevertheless, China still remains at a weak position in the global R&D innovative medicines.

Respondent 8: Government need to make more efforts to formulate and carry out a series of regulations and legislations to change the situations of repeatedly duplicate generic drugs with Inefficiency and waste of resources, and lack of innovation and competitiveness.

For more clearly presenting the data and information gathered from the interviews, the table 4.13 summarized the main viewpoints of CSR issues related to R&D and patented medicines as follows:

Table 4.13: Summary CSR issues related to R&D and patented medicines

Main ideas from interviews	Codes	Respondents
Chinese pharmaceutical and healthcare industry is lack of innovative medicines and cutting-edge treatments ...	lack of innovative medicines lack of cutting-edge treatments	R3 R11 R18 R8
Most of pharmaceutical manufacturers are small and middle-scale enterprises (SMEs) in China... Chinese pharmaceutical industry has some characteristics including the high fragmentation of industrial structure, serious product homogeneity and weak R&D intensity ...	SMEs high fragmentation product homogeneity weak R&D intensity	R9 R12 R18
Leading western MNCs have powerful R&D advantages in China including abundant capital, technological superiority, strong innovation ability and rich R&D experience, which mean high pricing of medicines from monopoly and obtaining rich economic profits ...	leading western MNCs powerful R&D advantages high pricing of medicines from monopoly obtaining rich economic profits	R4
Most of SMEs engaged mainly in low-value-added imitation activities for generic medicines... Low-quality generic drugs ... are not market competitiveness , which resulted in some patented products without “patent cliff” after patent expiry in China...	low-quality generic drugs not market competitiveness without “patent cliff” low-value-added imitation	R3 R12 R18 R2 R6
Another CSR issues related to R&D is the scarcity of innovative orphan drugs for rare diseases ... because of their high risk, huge investment and long-term process, with weak economic incentives and lack of commercial value ...	the scarcity of innovative orphan drugs for rare diseases with weak economic incentives lack of commercial value	R15
R&D original groundbreaking medicines has to go through a long-term process with huge investment , which can be very time consuming, extremely costly and high risk in arduous development process...	high risk huge investment long-term process	R9 R15 R16
Excessive producing /overproduction of duplicate generic drugs with low efficacy and low technology led to a large number of inferior generic drugs in excess , while innovative drugs in short supply ...	inferior drugs in excess innovative drugs in short	R3
How to deal with the obvious contradiction between corporate right to profits and customer right to health, between focusing on profit-driven for companies’ benefit and health-driven for public expectation ...	deal with the obvious contradiction profit-driven for companies’ benefit health-driven for public expectation	R17 R13 R4

For more clearly presenting the data and information gathered from the interviews, the table 4.14 summarized the causes of CSR issues related to R&D and patented medicines as follows:

Table 4.14: Summary causes of CSR issues regarding R&D and patented medicines

Main ideas from interviews	Codes	Respondents
The innovative technology of pharmaceutical industry is still in a backward state ... There is a lack of innovation platform, backward R&D capabilities ...	backward R&D capability innovative technology in a backward state	R15 R11 R3 R5
Few pharmaceutical companies in China are willing to invest innovation , most of them prefer to spend money on advertising and marketing rather than R&D. insufficient R&D investment makes it more difficult to enhance R&D capability...	insufficient R&D investment not willing to invest innovation	R3 R5 R12
Chinese pharmaceutical companies mostly have weak innovative awareness and backward R&D consciousness fail to realize the importance of R&D...	backward R&D consciousness weak Innovative awareness	R5 R14 R15
The lack of qualified professional talents is one of the main obstacles to the rapid development of pharmaceutical industry in China... The shortage of R&D human resources ... leads to inadequate R&D capability...	lack of qualified professional talents shortage of R&D human resources	R7 R10
It always is challenging that improving the issue of lack collaboration between research institutions and pharmaceutical companies , in order to integrate pharmaceutical science and industry...	lack collaboration research institutions and companies	R12
The Chinese CRO (Contract Research Organization) services have less competitiveness compared with the counterparts from western countries, because some of them are in start-up and early stage ...	Chinese CRO services less competitiveness in start-up and early stage	R3 R15
The low-efficiency approval process of patented drugs is complex and lengthy , which hinders the enthusiasm of pharmaceutical companies for R&D original drugs...	low-efficiency approval process complex and lengthy hinders the enthusiasm	R5
Deficient legislative guarantees and lacking of effective policy incentives hinder the development of innovative medicines... The immature of patent law will damage R&D enthusiasm... It is difficult for pharmaceutical enterprises to recover R&D costs under inadequate patent protection ...	deficient legislative guarantees lacking of effective policy incentives immature of patent law inadequate patent protection	R9 R10 R16

4.8 Summary

This chapter analyzed the collected data for the research based on the primary data resources from in-depth semi-structured interviews and secondary data resources from document content analysis, to understand and develop this study in detail.

It focused on the research questions to ascertain the prominent and unsolved CSR issues faced by pharmaceutical companies operating in Chinese unique business context; furthermore, dissect and discuss the root causes of these CSR issues; for providing a comprehensive landscape for CSR perception and implementation in the Chinese pharmaceutical industry. In brief, this chapter presented research findings and results of analyzing data that elaborate and interpret the prominent CSR issues from the seven aspects faced by pharmaceutical companies in China as follows.

From quality and safety of medicines, the “Made in China” is the label associated with the cheap and poor quality of product characteristics; in China, most of domestic pharmaceutical manufacturers are small and medium sized scales, with a scattered geographical layout, backward management structure and outdated manufacturing technology. Most of them focus on the low-level low-value imitation of generic drugs with duplicated production processes, which have weak trading competitiveness in a low market share, due to backward technical level, outdated manufacture facilities and weak technology capability in China. Some short-sighted companies tend to cut cost to make profits for immediate return in short-term way, resulted in inferior drugs entering the market and threaten the health of consumers.

From environmental pollution, China is one of the world’s largest producers of APIs, those APIs manufacturers are considered big polluters with low added-value and low economic efficiency, high-energy consumption, low utilization rate of raw materials, which bring resource waste and destructive environment. At present, most domestic pharmaceutical manufacturers are difficult to update equipment for saving resources and environmental-friendly manufacturing; for reducing waste discharge and improve waste treatment. Because most of domestic pharmaceutical manufacturers are small and medium-sized enterprises with scattered geographical layout, insufficient capital and weak technical force, they have a noticeable shortage of advanced technology, adequate financial support, qualified personnel resources, in order to build effective disposal and recycle of waste emission and discharge from pharmaceutical factories. Consumers also are one of main sources of medicinal residues into the environment, notably through human excretions and incorrect discard of the disused and outdated medicines. Environmental laws are still loose, sometimes, governmental supervision and punishment is not in place with slack law enforcement.

From R&D Innovation and patented licensing, the characteristic of pharmaceutical industry in China was known famously for its mass-production of low-level generic drugs and little involved in real innovative medicines for a long time. The excessive development of generic drugs is for same efficacy of duplicated products with low efficacy and low technology. As a result, a large number of inferior generic drugs are in excess while innovative drugs are in short supply in pharmaceutical market. In fact, drug R&D in China is still in a backward state. Few pharmaceutical companies in China are willing to invest R&D innovation; most of them prefer to spend money on

advertising and marketing rather than R&D, because most of them are small middle-scale enterprises (SMEs), with shortage of financial support, insufficient technology and weak ability to take risks. Furthermore, immature patent law and cumbersome bureaucracies of approval process hindered the R&D enthusiasm of pharmaceutical companies for innovative medicines.

From Commercial bribery, commercial bribery and corruption in the pharmaceutical industry affects the general public health and living quality of people, and have a severe negative impact on a corporate image and reputation along with huge fines, legal penalties and sanctions. It undermines fair market competition and violates normal market rules. Hospitals are commercialized and need to take responsibility for their own profits and losses, resulted in the perverse incentive mechanisms in hospitals. Most of doctors are dissatisfied with their income and workload. Therefore, the meager salary and insufficient income of doctors partly incurred or fueled bribery and corruption in healthcare system. In addition, abusing or misusing of Guanxi has become a hotbed of bribery and corruption in Chinese business context.

From advertising and promotion of medicines, medical sales representatives bribe doctors using commissions, kickbacks, or gifts to promote prescription medicines and increase sales. Due to most of the doctors underpaid in public hospital, so they are more likely to under the temptation by bribery In China. Over-prescription and overuse drugs damage the economic and health interests of consumers. Some OTC advertisements tends to exaggerate the curative effects, hidden the side effects and adverse reactions, which used as marketing and sales tool with the purpose of sale promotion. It seriously undermined the social justice and affected the normal market order of fair competition. In China, these kinds of illegal advertisement rarely need to face prosecution and severe law punishment. It makes some unethical companies and profiteers take advantages of loopholes in the lax regulation and legislation.

From Pricing and access to medicines, doctors have the right to decide what kind of medicines to use and treat the diseases. It makes them become the main target of bribery. The marketization management and incentive mechanism in hospitals fueled doctors to overprescribe medicines. Furthermore, there still are many intermediaries and gray areas in the process of medicine transportation and distribution, which has become a significant cost driver in the healthcare systems, aggravate the economic burden to patients, and hinder the access to medicines and healthcare. Moreover, the oligopolistic features of the pharmaceutical market give some leading companies huge power to set extremely high prices for their patented medicines. Oligopolistic market structure leads to inaccessibility of some expensive life-saving medicines.

China's national health insurance has characteristics with wide coverage, low level and low efficiency. Deficient health insurance system leads to the high proportion of out-of-pocket personal expenditure for healthcare and medicines, which resulted in some medical treatment still out of reach for many people. Furthermore, there are the huge geographical and rural-urban discrepancies for medical services and health care resources. It is necessary to improve resource management in health system and optimize medical resources allocation, in order to reduce the disparities between areas of lower and higher economic development (Yuan et al., 2019), which impede and obstruct the progress toward Universal Health coverage (UHC).

From the waste of medical resources, in Chinese pharmaceutical industry, excessive development of generic drugs means same efficacy of duplicated products with low-effect and low technology resulted in enormous waste. Overprescribing and overuse of medicines in China is prominent, especially in the overuse of antibiotics leading to drug resistance. Inappropriately discard of expired drugs also damage surrounding environment, causing a lot of serious environment pollution and resource waste. The exaggerated OTC propaganda and advertisement have affected people's desire to buy medicines, and stimulated excessive consumption, mislead some consumers to buy large quantities of expensive low efficacy, low safety medicines, which resulted in serious waste. Additionally, in China, there is a huge gap between urban and rural areas. On the one hand, the poor people in remote rural areas are lack of the access to necessary medical services and essential medicines, shortage of qualified medical professionals, with inadequate medical infrastructure. On the other hand, the wealthy people in the cities are squandering medical and pharmaceutical resources, which is very wasteful.

The next chapter would elaborately discuss the seven main CSR issues respectively based on the CCG model originated in this thesis, from the three dimensions namely consumers/customers, companies/organizations and government/authorities in detail. It exhaustively dissects the causes and effects of these outstanding CSR issues, the status quo of CSR in the Chinese pharmaceutical industry is explored in great detail. It contributes to pave the way to alleviate or mitigate these CSR issues, and find out the moving direction forward to improve CSR practices of pharmaceutical companies operating in China.

5 Discussion

China is knowingly the second largest pharmaceutical market in the world (Chow, 2017). The pharmaceutical market in China has some characteristics with aging population, rising income levels of population (Wood et al., 2008). Meanwhile, rapid economic development in China has resulted in urbanization and industrialization (Wang et al., 2017), leading to large-scale floating population into cities, accelerating pharmaceutical spending/ expenditure along with the improvement of living condition.

At the same time, the reforms of China's healthcare and medical system have affected pharmaceutical market (Ramesh et al., 2013), for enhancing the domestic medicine product competitiveness and elevating the capacity of the pharmaceutical market development in China. Carry out a healthcare overhaul is to expand access to healthcare services and boost demand for medical products. Due to the increasing living standards and the aging of the population with increased prevalence of chronic diseases, Chinese people are fostering health consciousness for a better life and pay more attention to their health, along with raise standards and demands seeking for high-quality healthcare and innovative medicines.



Figure 5.1: China is the world's second largest pharmaceutical market (Source: LEK Consulting)

China's pharmaceuticals industry was blooming and rapidly development in recent years (Wang, 2015). CSR activities become more dominant in the pharmaceutical industry, because this industry takes a great important part to influence on human health and quality of life. Medicines are not only ordinary commodities (Cohen, 2006), which are considered a key component to health (Droppert & Bennett, 2015) and are indispensable to healthcare systems for providing products with therapeutic efficacy.

With rapid economic development, changeable pharmaceutical policy, dramatically healthcare system reform in China, Some CSR issues arise in the pharmaceutical industry and become more acute and prominent (Yip et al., 2010). Specifically, from the presentation and analysis of the data in the previous chapter, it is obviously that there are the seven main CSR issues faced by pharmaceutical companies operating in China, which need to find out practical and feasible solutions. Combined with the first-hand and second-hand data, according to the collected and analyzed data, this chapter elaborately discusses these outstanding CSR issues from seven aspects of pharmaceutical industry in China based on the CCG model, for further exploring the CSR perception and implementation in the Chinese pharmaceutical industry.

5.1 Quality and safety of medicines

There has been a growing awareness about the importance of the pharmaceutical product quality (Haleem et al, 2015). Quality of medicinal product is a core CSR consideration in pharmaceutical enterprises, a corollary is manufacturing quality of medicines influence the health and wellbeing of human beings (Kumar & Jha, 2018). The connotation of quality in pharmaceuticals involve in safety and efficacy of the medicinal product (Woodcock, 2004). The curative effect and intended use of pharmaceuticals should conform to appropriate /acceptable standards (Board, 1999) from their manufacture to end delivery, in order to ultimately benefit consumers.

Manufacturing safe, effective and high-quality medicines is an essential core of developing pharmaceutical industry (Lionberger et al., 2008). In today era, more and more pharmaceutical companies focus on pursuing high-level assurance of quality for products (Lawrence, 2008), to reduce manufacturing waste and product rejection, and increase the efficiency of manufacturing products (Kharad et al., 2011).

Efficacy and safety of medicines compromised when manufacturing inferior products by accident or intention, these substandard drugs entering the market will threaten healthy of consumers (Lawrence & Kopcha, 2017). At the same time, it will cause waste of medical resources and aggravate environmental pollution. Compared with other industries, the pharmaceutical products directly affect the human health, well-being of society, and even make the difference between life and death of people. CSR violations related to medicine quality and safety in pharmaceutical industry would bring lead to more serious negative consequence, coming along more heavy losses and destructive influences on the quality of people's lives, social security and stability due to the characteristics of this industry.

It is significant to take into consideration of quality of medicines to ensure that the pharmaceutical products are safe and effective to achieve the desired results, based on the CCG model in following three dimensions: the suppliers (pharmaceutical companies), the demanders (customers or the patients) (Macke & Liang, 2011), and governmental supervision and regulation related to the pharmaceutical industry.

From the dimension of pharmaceutical companies

From the supply side, namely from the dimension of pharmaceutical companies, it is the responsibility of the pharmaceutical manufacturer to provide medicines with stable quality to a safe and consistent standard. The goal is to build quality into the operation at every step within pharmaceutical manufacturing process, taking into consideration scientific and technological advances, ethics, and regulatory principles.

Quality assurance (QA) is extremely important for guaranteeing the safety and efficacy of medicine products. Pharmaceutical manufacturers should place a high priority on assurance procedure and guarantee system, make products conform to the appropriate standards for quality and safety, to ensure a supply of safe, effective, and high-quality drugs for desired results in terms of health are achieved.

It is essential to improve the quality of medicinal products and R&D departments should try the best to improve the efficiency of manufacturing pharmaceuticals (Kleinebudde et al., 2017), use advanced science and technology make medicines have more reliable quality, along with the advanced facility, top-ranking testing under stringent control procedures for the high-quality guarantee for medicinal products.

Product quality is the basis as core competitiveness for pharmaceutical enterprises. Improving the quality of medicines not only is doing good things for the public, but also enhancing the profitability of pharmaceuticals for the sustainable development of companies. Medicine products manufactured with the stringent quality controls to meet adequate safety, effectiveness, quality standards, which are vital components to corporate survival and long-term development successfully.

It is important to enhance the quality of generic medicines manufactured by domestic pharmaceutical companies. Generics should have exactly the same intended use, dosage, effects, side effects with the same risks and safety as original drugs. Their pharmacological effects are as same as their brand-name counterparts are (Alfonso-Cristancho, 2015). Some domestically manufactured generic drugs fall short and do not in conformity with the international standards, resulting in poor treatment efficacy and lack of market competitiveness (Huang et al., 2013), which do not achieve the same curative effect as their branded equivalents.

Reducing these gaps required Chinese pharmaceutical companies to improve their R&D capability and technical level, as well as backward equipment to enhance the level of production; and to raise CSR awareness and attach importance to CSR; not only to focus on short-term economic benefits and returns.

Improving pharmaceutical transportation and delivery is another significant aspect to improve quality of medicinal products. Drug distribution establishes a link from the pharmaceutical factories to consumers and patients (Yu et al, 2010). Pharmaceutical companies focus on quality does not end at the production facility; they also need to conduct appropriate quality control in storage and transportation to ensure a safe supply chain for the delivery of high-quality drugs to customers.

The logistics and distribution process affect the final quality and efficacy of medicines. A drug may be degraded and tainted when exposed to inappropriate environmental conditions in storage and transportation. The deteriorated and contaminated drugs would result in the adverse impacts on patients. For example, some medicines need to keep in cold storage at proper temperature and humidity to prevent them from damage during transportation. The storage and distribution of medicinal products are important to maintain the consistent quality of pharmaceutical products, which have to comply with the requirements of relevant legislation and regulation (WHO, 2010).

Drugs as special commodities must meet the quality standards set by the relevant governmental agency during the process of transportation, to make every link in the supply chain secure for patient access to safe and effective medicines. In the field of drug circulation, there are still some CSR issues related to undocumented operation, forced marketing, selling inferior drugs. The supply chain in Chinese pharmaceutical sector needs greater regulation on drug quality and safety (Shao & 2006).

Improving after-sale service quality of medicines is also important to guarantee the quality and safety of pharmaceuticals. The pharmaceutical industry should be ahead of other industries to establish and improve the product recall system (Zhao et al., 2013). When a product put on the market that are suspected of having potentially harmful to customers and patients, or the medicines with defective quality endanger the health of users, which may be subjected to a recall (Cheah et al., 2007). Considering safety and health of consumers, and maintaining the fundamental brand integrity of corporations, effective recall measures and compensation will win the confidence and respect of consumers for corporate humanized and honest operation.

In a word, Quality is everything when it comes to the pharmaceutical industry. It is the primary goal of any pharmaceutical company to guarantee the safe and effective of medical products. Pharmaceutical companies should strictly control for quality assurance of products in the process of R&D, manufacture and transportation and after-sale service, for guarantee of providing medicinal products with consistent and stable quality to satisfy the customer demands.

From the dimension of consumers/patients

The product-customer relationship of medicines and patients is essential (Woodcock, 2004) in pharmaceutical industry. Medicines should be of adequate quality to meet the consumers' need and any adverse effects with potential safety hazard need to be informed (Thomas et al., 2017) for protecting consumer interests.

From the demand side, namely from the dimension of consumers and patients, who should enhance the awareness on safe and rational use of medicines for ensuring the therapeutic curative effect; full awareness to the serious harmful that inferior and substandard medicines bring to human beings, and anytime take medicines strictly according to the doctors' prescription. Moreover, foster discernment for exaggerated advertisement and stay alert for false commercial publicity that deceive and mislead customers, for ensuring that medicines provide the desired effect to consumers. It is also important to increase population awareness and attention about self-medication, optimum storage conditions, products expiration and pharmaceuticals labels, which would minimize the adverse effects and improve medication safety.

In China, some doctors and patients commonly tend to doubt the efficacy and quality of some generic drugs that manufactured by Chinese domestically pharmaceutical companies. They still have stronger preference for imported drugs compared with domestically manufactured generic drugs (Mao et al., 2015).

After patent expiry, generic drugs should be interchangeable with the original ones, based on the same quality and curative effect, which are playing an important role in ensuring the easier access to medicines with the lower prices to controlling health expenditures (Huang et al., 2017). In China, the quality of some generic drugs is low and far less efficacy than the equivalence of patented drugs, sometimes even with huge side effects (Huang et al., 2017), which lead to the widespread understanding of "cheap price equals low quality" in Chinese pharmaceutical market. It brought a negative influence and compromised reputation on medicines made in China.

From the dimension of government/authorities

Government and authoritative agencies play a very crucial role in governance and supervision of the quality of pharmaceutical products. Guaranteeing the quality of medicinal products refers to assure that medicines meet legal requirements of safety and efficacy, which hinges on rigorous regulatory standards (Haleem et al., 2015).

Formulating stringent medicine standards plays an important role in strengthening the management of drug qualification, ensuring the quality, safety and effectiveness of drug use, for maintaining people's health. Drug standards are an important part of modern drug production and quality management. They are the legal basis for drug development, production, supply and use (Li et al., 2011).

China Food and Drug Administration (CFDA) officially have changed its name to National Medical Product Administration (NMPA), which is the governmental agency for regulating drugs and medical devices (Synchrogenix, 2018). Pharmaceutical manufacturers produce drugs or APIs in China must be subject to the supervision and administration of NMPA and conforms to the rules and regulations of NMPA. Chinese Pharmacopoeia (CP) is the national the CFDA's national statutory standard for the quality and testing of commonly used drugs.

The quality of medicine is essential for the safety of patients. A drug that are not up to the quality standard or defective in some way that cannot work as the intended purpose, which can present a threat to public health and impact the user's everyday life. In order to increase consumers' confidence on generic medicines manufactured by domestic pharmaceutical companies, The Chinese government requires generic drugs made in China are compulsory to conduct comparative bioequivalence test (General Office of Chinese State Council 2016), as well as comply with consistency evaluation (Hongbin & Wenliang, 2011), The bioequivalence and stability testing still are in the process of improvement (Huang et al, 2013), which used to achieve quality and safety control to tighten evaluation and approval standards for eliminating those low-cost, low-quality copycats, upgrade regulatory standards to standardize generic drugs, and create a healthier competition market of pharmaceutical industry in China.

For the improving of medicine manufacturing, a regulatory system to ensure quality standards issued by the Ministry of Health in Jul 1995, which marked the official beginning to implement the GMP certification in China. GMP (Good Manufacturing Practice) is a set of mandatory standards applicable to pharmaceutical and food industries, which is designed to minimize the risks involved in any pharmaceutical production to ensure the safety and effectiveness of medication (Zhang et al., 2014). It requires drug manufacturers to guarantee product quality in terms of raw materials, working personnel, facilities and equipment, production, packaging, transportation, etc. (Hu, 2013). It forms a set of operational norms and manufacturing standards to help pharmaceutical enterprises to improve manufacturing capability, and ensure that medicine products must meet a consistent level of quality, efficacy and safety. Briefly speaking, GMP requires pharmaceutical manufacturers to have standard production equipment, appropriate production process, adequate quality assurance management and strict inspection system to ensure that the final product quality meets the requirement of laws and regulations (Wei & Ruilong, 2011).

5.2 Advertising and promotion of medicines

There has been rapid growth in the consumption and expenditure of medicines (WHO, 2001). Drug promotion means the informational spreading and persuasive activities to customers in the pharmaceutical industries, which is having significant impacts to customer's decision for medicine purchase and medication use (Mali et al, 2010). The unethical and illegal medicinal promotions can bring negative influence on consumer decision-making process, including bribing doctors and misleading OTC advertisements. Inappropriate drug propaganda has become a platform to provide false medical information with exaggerate drug efficacy, which affects and harms consumer's health and economic benefits (Bin G. 2010).

There are two general classifications of drugs, prescription drugs and OTC drugs. OTC drugs are available for purchase right off the shelves at a store, which can be sold over the counter that people can choose and use of these drugs themselves without having to hold a doctor's prescription. However, prescription drugs must have a prescription, requiring diagnosis and use under supervision by doctors, following doctor's advice for safety and effectiveness (Neumann & Cohen, 2015). According to relevant laws and regulations in China, advertising of prescription drugs in mass media strictly prohibited in China (Fang, 2017).

OTC advertising is allowed by law through all kinds of mass media faced to public for marketing OTC medicines. In recent times, the occurrence of false OTC commercial advertisements with exaggerated efficacy have multiplied (Ahmad et al., 2015) that can be seen everywhere, such as, broadcast on TV and radio; and fill the pages of newspapers and magazines, appear on websites and billboards (Dave, 2010). It is imperative to abandon all kinds of immoral medicine propaganda; this kind of shoddy phenomenon seriously damaged the legitimate rights and interests of consumers.

Inappropriate and misleading pharmaceutical advertisements are sometimes with exaggeration about curative efficacy, and conceal the real information about side effects. It seriously aggrieves the rights of consumers, undermines the social justice and honesty system, and affects the normal market order of fair competition. In order to establish a healthy pharmaceutical market, improve the improper promotion and advertising in the pharmaceutical industry, it is necessary to address and discuss based on CCG model from three dimensions: suppliers (pharmaceutical company), demanders (customers/patients), and government regulation and legislation.

From the dimension of pharmaceutical companies

Pharmaceutical companies normally have two ways/methods for the purpose of boost its sales and market share. One is pharmaceutical sales representatives conduct direct-to-physician promotion (DTPP) for increasing sales of prescription medicines; the other one is advertisers produce direct-to-consumer advertisements (DTCA) for OTC products selling to the masses (Lal, 2001) through all kinds of media (Tayade & Kulkarni, 2011).

Pharmaceutical industry has some unique characteristics that other industries do not have. One of the most significant characteristics is information inequality. Unequal information in pharmaceutical industry means medicine providers (pharmaceutical companies) knows much more information and truth about products than purchasers (the customers) (Yip & Hsiao, 2008). The asymmetric information about medicine products make pharmaceutical companies has more powerful to effect costumers' purchase decision for corporate sales and marketing promotion.

The development of network technology opened the door to the online purchasing of drugs (Oger, 2009), with the advantage of lowering promotion and distribution costs. Illegal advertisements have entered internet platform through the various new digital information media and channel to mislead consumers, profiteers use e-commerce platform selling defective low-quality commodities, online trading is more difficult to detect and track, which makes advertising supervision more complex and difficult.

Pharmaceutical companies benefit from these imbalances of information inequality, and can influence on price setting and increase market demand to their advantage. On the contrary, sometimes, the consumers are unable to get the fairness of trade due to the lack of information, power and alternative of medicines in some extent. Some short-sighted pharmaceutical companies focus on economic benefits in China, which take a very short-term view and want immediate results of economic returns. However, pharmaceutical companies not only have a responsibility to enhance corporate economic benefits, just selling products in a profitable and lucrative way; but also, pharmaceutical companies have responsibilities to dispel and relieve pain and cure diseases for enhance people's health and saving life to improve living quality of human beings (Hunt & Khosla, 2010).

Pharmaceutical companies should enhance CSR awareness, and be fully aware that pursuit economic profit is not the only purpose. Furthermore, ensuring authentic and reliable publicity information of medicinal products is not only a CSR commitment to patients, but also the foundation of corporate integrity for the long-term survival and development of companies. It is imperative to severely punish and eliminate all kinds of false and exaggerated propaganda and stick to establish a good faith and fair and reasonable competition environment in the Chinese pharmaceutical market.

From the dimension of consumers/patients

Improper propaganda and promotion of drug companies resulted bad consequences which are associated with unnecessary prescribing, over-treatment, iatrogenic harm and increased healthcare cost to the customers, which are one of the most important issues urgently need to solve in pharmaceutical industry (Wang, 2017).

The medical sales representatives hired by pharmaceutical companies approach and bribe doctors in hospitals using sales commissions, kickbacks, or gifts for sales and marketing of prescription medicines. It compromised doctors' independent judgment and their loyalty to patients in medical practice. Doctors have rights to guide patients to use drugs, some profit-driven doctors prescribe more medicines for gaining more benefits, taking advantage of the unequal drug information, which deteriorate doctor-patient relationship, undermine doctors' reputation, reduced levels of trust in doctors.

There are the urgent needs for medical information openness, and make the medical and healthcare system more transparency (Xu & 2019).

Over-prescription and overuse drugs damage the economic and healthy interests of patients, rising healthcare costs and hinder patients' access to effective treatment. It is necessary to emphasize on the doctor's duty to guide rational medicine use for disease prevention and health maintenance. Doctors should take their responsibility for consequences of medical therapy and pharmacotherapy outcomes (Villako et al., 2012), ensure the safe and efficient way of using prescribed drugs. Medicine sales representatives from pharmaceutical companies should comply with working norms and professional ethics, for cracking down fraud, malpractice, and corrupt business conducts, abide by the principle of fair competition and promote their own medicine products in a genuine and fair manner (Patwardhan, 2016).

Some OTC advertising tends to exaggerate the curative effects, hidden side effects and adverse reactions, which often used as a marketing and sales tool with business purpose. Consumers exposed to ineligible, deceitful and misleading OTC advertising. It undermined the safety and efficacy of self-medication (Rahmawati, 2007).

Customers must face medicine advertisements rationally and judiciously. Traditional Chinese medicine (TCM) with cultural acceptability and identity in China accounted for a significant proportion in over-the-counter drugs (OTC) advertising. Another area easily invaded by false advertising is personal health care products considered as dietary supplements to cater to the consumer psychology and satisfy contemporary people's desire for physical fitness and in good shape, which also leads to more and more impulse shopping. In addition, a large number of unethical advertising medicines are related to chronic diseases, especially for the older consumers and users. With a rapidly ageing population, the elderly suffered from more health problems related to chronic diseases (Yang Et al., 2008), sometimes, who are a group of people easily gullible and credulous to 'panaceas', and are vulnerable in deceitful advertisements.

Improper self-medication, over-prescription drugs and misuse of some medicines are contributing factors to affect medication safety and efficacy, which maybe more likely to result in serious health complications, danger to health and even cause death. Customers should not be credulous of the miraculous panacea with magical effects from the false advertisements; and enhance their vigilance for keeping away from misleading OTC advertising. However, due to inadequate regulations and immature law system, this kind of unethical and deceitful advertising rarely faced prosecution and punishment in China. Such a lenient legal situation makes some of profit-driven pharmaceutical companies take advantages of loopholes in the lax regulations and legislation. It is necessary to intensify supervision and control to suppress and crack down such deceptive advertisement and illegal promotion behaviors (Zhai, 2016).

From the dimension of government/authorities

Government authorities play a key role in establishing a healthy pharmaceutical market. Government takes the responsibility of stabilization, justice and equity for society, providing accessible and cost-effective medication and healthcare services for people, in order to enhance human wellbeing and social prosperity.

Inadequate and light punishment is one of the main reasons for the spreading illegal promotion of medicines. Compared with the high profits, the cost of illegal medicine advertisement is slim in China (Gao, 2007). The Food and Drug Administration (FDA) (China Food and Drug Administration 2008) in China need to make more efforts to strengthen regulation and control of OTC advertising and severely punish improper promotion in pharmaceutical industry, to improve access to quality, safety, affordable medicines and healthcare services for the public. As a result, it is highly necessary to strengthen relevant regulation and law of medicine promotion and advertisement, along with intensifying enforcement and raising punishment standard (Grivec, 2015), to ensure that medicines provide the desired effect to benefit customers.

The weak supervision and loose approval system are also the main reasons for the rampant of eligible OTC advertisements. Such a lenient legal situation makes some unethical money-oriented pharmaceutical companies take advantages of loopholes in lax regulations and legislation. Government should take actions to enhance the standard of advertising censorship, intensify supervision and governance, tougher enforcement of law and regulations to curb ineligible OTC advertising, for protecting consumers' rights (Chen et al. 2013).

False and deceitful advertising has a significant negative impact on self-medication (Ershadpour et al., 2017), with the potential serious risk of misleading consumers' purchasing decisions and harming the interests of patients, resulted in the excessive expense on unnecessary drugs. Commercial advertising in pharmaceutical industry should provide the definitive, unvarnished information on clinical efficacy; and exactly present all the side effects of medicines; to improve consumers' understanding of a drug's risks and benefits, to reduce patients' economic burden and enhance sensible use of medicines.

Additionally, with the rapid internet growth and the multimedia information explosion, some unethical drug advertising and promotion activities have entered the internet platform, and information dissemination through various communication software without the limit of region and time, makes supervision and governance of medicine advertising more complex and difficult. Some illicit online trades are engaged in the sale with the inferior products that maybe defective or substandard (Mackey & Liang, 2013), which lead to the increasing negative influence of misleading pharmaceutical marketing (De Freitas et al., 2014). Governmental regulators should effectively and efficiently supervise new digital media and channel associated with the misleading propaganda of medicine information (Gibson, 2014), strengthen enforcement of the relevant legislation and regulation and elevate punishment standard to lawless and falsehood advertisement for promoting sales on the internet (Mackey & Liang, 2013).

Aggressive and exaggerative commercial advertising and promotion applied undue influence with emotional appeals (Vitry, 2004), and cater to consumer psychology to manipulate consumers, in a way which significantly hampers customers to make an informed purchase decision, and damages the legitimate rights of consumers. The government plays a vital role to safeguard public interests, preventing these potential risks of the public health and safety, to ensure truthful and reliable information for advertising publicity and sales promotion of medicinal products.

5.3 Environmental pollution

Healthcare waste/Medical waste on a global basis is under the increasing public concern during the past few years (Shinee et al., 2008). Healthcare waste (HCW) has potential hazard to human beings (Baveja et al., 2000), which maybe contains with some kinds of infectious ingredients, toxic properties, and other hazardous substances (The State Council, 2003). Therefore, it has a significant impact on the ecological system caused a huge environmental risk (NHFPC, 2013).

Environmental protection means avoiding the excessive usage of environmental resources, reduce misuse/abuse and waste of natural resources, as well as minimize negative impact on natural environment. Pharmaceutical factories are regarded as heavy polluters with large pollution emissions, complex pollution components brought serious environmental impact on ecosystem (Mathew & Unnikrishnan, 2012).

China is the world's largest producer of active pharmaceutical ingredients (APIs) (Xu, 2015). Especially API production is a typical "low added value and high pollution" process (Cheng & Tang, 2017). It is high environmental risk to improper discharge waste from API manufacturers, and considered as a main source of pharmaceutical pollution (Kleywegt et al., 2019). Those active ingredients (APIs) manufacturers as big polluters with high-energy consumption, high pollution, low utilization rate of raw materials in China, which inevitably bring resource waste, low efficiency, low benefit and destructive environment. It should be compulsory to properly treat and recycle of the waste discharge, and effectively disposal of harmful substance emission from pharmaceutical manufacturing with a minimum impact to surrounding environment.

It is emergency requirement to minimizing the release of pharmaceutical waste into environment during manufacture, use, and disposal of pharmaceuticals (Velagaleti et al., 2002). Environment protection has been a core CSR practice for corporate long-time development, which not only for the benefit and reputation of corporations, but also more important for sustainable environment and wellbeing of future generations.

It is urgent to prevent the pharmaceuticals pollution threatening to human health. Taking into consideration scientific and technological advances, ethics, regulatory rationale, the pharmaceutical manufacturers can choose more environmentally friendly manufacture methods (He et al., 2016). It is to avoid or reduce negative impact on natural environment, as well as efficient and effective use of all kinds of environmental resources and energy during in the producing process, to build a vitality, competitiveness and sustainable development of pharmaceutical industry. It is necessary for pharmaceutical companies to develop innovative cost-effective technology for effective disposal and treatment of hazardous pharmaceuticals waste to ensure the safety of ecological system. Meanwhile, government should formulate and implement feasible and workable regulation and legislation to block pollution sources and reduce producing pollution, such as, irrational utilization of medicines and improper discard of outdated medications from consumers; hazardous waste discharge from pharmaceutical factories.

From the dimension of pharmaceutical companies

Pharmaceutical industry is considered one of the most serious industries producing environmental pollution. Pharmaceutical manufacturers and regulators at all levels should consider controlling and monitoring the pharmaceutical waste to reduce toxic chemical substances into environment, particularly, waste discharged from Active Pharmaceutical Ingredients (APIs) manufacturing process (Larsson, 2014).

Pharmaceutical residue into the environment might cause heavy adverse effects on human beings (Li, 2014). Especially, some of domestic Chinese API manufacturers have the reputation of poor waste processing and disposal. It is of great importance to control pharmaceutical waste from manufacturing factories avoid health risks and environmental pollution (Abdulla et al., 2008), to make sure less potentially harmful material exposed to the people in the surrounding area. The active ingredients of pharmaceutical wastes discharge into water cycle system can accumulate pollutants into vegetables products. Soil pollution with toxic substances would into plants and animals through the food chain (Wang & Wang, 2015), which will cause serious damage to human health after people eating, digesting and absorbing these foods.

Medicines are increasingly used in large amounts, resulted in the growing concerns about the rising pollution concentration of pharmaceutical waste in the environment (Caldwell, 2016), including antibiotics found in environments polluted by waste from pharmaceutical production facilities (Bengtsson-Palme et al., 2018). The discharge of pollutants from drug manufacturing without appropriately treatment is regarded as a serious pollution source that triggered drug-resistant (Larsson, 2014). Furthermore, The emergence of bacterial resistance endangers human health, makes the normal dose of drugs no longer play its due curative effect, or even makes drugs completely ineffective, thus makes some disease easier to spread and difficulties to treat.

It is need to updated energy-saving manufacturing facility to promote of production efficiency and improve resource utilization rate to reduce pollution discharge, curb adverse impacts on the surrounding environment; to upgrade the level of pollution prevention and treatment, and eliminate backward manufacturing processes with high-energy consumption, to establish the reasonable control of pollution emissions. However, some companies are reluctant to invest enough funds, manpower and other material resource to control pollution, due to small medium-sized enterprises are scattered and lack of human, material and financial resources in all aspects.

At present, the most of pharmaceutical enterprises in China are difficult to meet the environmental protection standards, because the most of domestic pharmaceutical enterprises are mainly small and medium-sized enterprises with insufficient funding, scattered geographical layout, and weak technical force. There is lack of advanced equipment, adequate financial support and qualified personnel resources to retrofit and update pharmaceutical manufacturing facilities, to effective disposal and recycle the waste emission from pharmaceutical factories (Abbott, 2017).

There is need of increased investment and enhance waste treatment technology for waste process in pharmaceutical manufacture for ensuring safe waste discharges from drug factories (Larsson, 2014); meanwhile building cost-effective and resource-efficient manufacturing process for efficient and effective utilization of resources.

It is necessary to increase transparency throughout the production chain (Larsson & Fick, 2009), provide readily available information related to environmental impact of production process, to reducing environmental contamination from pharmaceutical manufacturing. Moreover, another aspect need is to take actions for enhancing the CSR self-consciousness and self-regulation starting with pharmaceutical companies. The essential core of CSR is to use the limited ability and resources within the scope that organization can afford, to make positively impact to environment and society at any given opportunity as much as possible.

From the dimension of consumers/patients

Medicines have an essential role in the treatment and prevention of diseases, and the protection of human health. However, medicines also brought unintended effects on ecosystems and organisms (Boxall, 2004), due to irrational use of medicines and improper discard of outdated medications. There are extensive and increasing use of medicines, which continuously bring risk of jeopardizing the ecological environment. With increasing global pharmaceutical consumption, the released pharmaceuticals and their metabolites and transformation products would result in a serious adverse effect on nature environment (Arnold et al., 2014).

Pharmaceutical waste is one of healthcare waste or medical waste, which is serious hazardous to human health and damage to flora, fauna, and the natural environment (Tsakona et al., 2007). Drugs taken by humans and animals into ecological system can result in devastating effects on the environment (Klatte et al., 2017).

Along with the rapid development of economy, pharmaceutical pollution has become a serious concern in China where is with the huge population and rapid urbanization (Kahle et al. 2009). Nowadays, medicines and personal care products (PPCPs) have received growing attention, China is a large populous country, with high production and consumption of PPCPs, which is persistent into nature environment threatened ecological system and human health (Liu & Wong, 2013).

Consumers are one of the main sources of medicinal residues into the environment, notably through human waste and excretion, incorrect disposal of expired medicines, which lead to pharmaceutical ingredients indirectly entering the environment through medicine residues (2013). Therefore, appropriately treatment of medicine leftovers and rationally discard of disused medications are key protective measures to reduce environmental contamination caused by pharmaceutical waste.

Unused medicines disposed or discarded inappropriately increased negative impact on the natural world. As far as consumers are concerned, there are two main routes where make active pharmaceutical ingredients (APIs) into the environmental system, excreted in urine or feces and discard of unused medicines (Molinos-Senante et al. 2013). Leftover and expired medicines in the household trash easily brought risks for unintended exposure of hazardous substances and harmful ingredients into natural environment. Increasing consumer awareness about proper disposal of unwanted medicines, carry out medicine take-back programs, and develop R&D for medicine products designing in-home disposal of pharmaceutical waste in easy and safe ways, to reduce emerging contaminants threatening the environment and human health.

From the dimension of government/authorities

Regulatory authorities of government play an important role in minimizing negative impacts caused by pharmaceutical residues into the natural environment with long-term, chronic exposure. It is important build a regulatory framework for assessment and supervision environmental risk of pharmaceutical waste (Küster & Adler, 2014). Inadequate waste management and control can cause undesirable influences on humans and natural system (Yong, 2009). However, promote outdated technological method as well as establish favorable waste treatment for pharmaceutical waste is a very challenging task for the government and authorities (Hasan, & Rahman, 2018). Government should formulate effective rules and regulations to strengthen recycling, classification and disposal management of medical waste, which can reduce harmful substances into the ecological environment, minimize adverse effects on waterfowl, poultry and human beings, and improve resource utilization (Liu & Yao, 2018).

The supervision and control of pharmaceutical waste are of great importance. For the current pollution problems of pharmaceutical factories, one of the main reasons is the enforcement of supervision is not in place, which needs to be further improved. Moreover, the punishment strength for environmental violations is not enough. The cost of illegal activities related to ecological environment pollution is low in China. As a result, some manufacturers would rather face to be punished than invest money to update environmental-friendly manufacture equipment and improve waste treatment.

The Chinese pharmaceutical industry is one of the key industries that need pollution control, regulation and governance by the Ministry of Environmental Protection of China. In recently years, there is the increasing attentions and efforts on enhancing and broadening of environmental legislation for emerging contaminant (EC) (Petrie et al., 2015), which focused on policy initiatives to trace emerging contaminant (EC) in pharmaceuticals for monitoring and controlling.

Some of Chinese API manufacturers have bad reputation for poor waste processing and disposal, which would confront with the tougher curbing measures and tighter regulatory restrictions and severe punishment. The new Environmental Protection Tax declaration in China began in January 2018 that requires that pharmaceutical manufacturers must pay local government a tax that is based on the number of units discharged "taxable pollutants" (Zhang, 2018; Macdonald, 2018). The principle of polluter paying have the purpose to shift pollution costs from the public at large to pharmaceutical manufacturers (Zahar, 2017), for reducing the amount of pollution (Zahar, 2018), and maintaining environmental stability (Hamman et al., 2018).

There are several recommendations related to alleviate the negative impacts from pharmaceutical pollution (2009), including intensify publicity and education through various media about correctly discard of disused medicines (Donn et al, 2008); introduce high-tech equipment to reduce waste emission; establish an integrated pharmaceutical waste management system aiming to better waste disposal (Geng et al., 2013); increase investment in R&D of products with high cost utilization; create communication platforms with application of state-of-the-art technologies for the latest information of medicines and treatments, to avoiding potential environmental and public health risks (Nie, 2014).

5.4 Commercial corruption and bribery

Commercial bribery and corruption mean illegal, unethical commercial competition in order to obtain business benefits (Wedeman, 2013), which has a severe negative impact on a corporate brand image and reputation along with enormous economic punishment. It undermines fair market performance and violates normal market rules (Shi et al., 2018), damages the integrity and justice of business environment, erodes fair and transparent competition (Schipani et al., 2016).

The main form of commercial bribery in pharmaceutical industry is using kickbacks and other benefits to induce doctors for promoting medicines (Shi et al., 2018). Corruptions have a severe negative impact that threat of healthcare system security and stability. It damages patients' wellbeing and health, undermine the quality of healthcare service, which increase inappropriate prescriptions and treatments (Jin et al., 2016), leading to raise the cost of medicines and financial burden of healthcare.

Commercial bribery and corruption in pharmaceutical industry affects general public health and living quality of human being. It can impair both the economic and healthy interests of patients, resulted in undermine the quality of healthcare services due to over-prescription with undesired adverse reactions. It is urgent to raise anti-bribery surveillance, elevate punishment measures and stricter enforcement of relevant laws to crack down on unfair competition and commercial bribery which have huge severe negative consequences in the pharmaceutical industry (Zhang et al., 2014).

To curb the prevalent bribery and corruption in China should make the efforts from the three dimensions. Pharmaceutical companies need to enhance self-awareness, self-supervision self-discipline; government should improve the institutional structure of healthcare system (Rose-Ackerman & Yan, 2014), and formulate more stringent regulation and legislation, and strengthen law enforcement to suppress commercial bribery; additionally, consumers should enhance awareness of self-protection, and establish a correct attitude towards doctor-patient relationship, and so on.

From the dimension of pharmaceutical companies

Social cultural impacts need to be considered to crackdown bribery and corruption efficiently (Collier, 2002). Cultural aspects have to discuss as a critical influence on bribery and corruption in China. The nature of Chinese traditional culture is deeply related back to the Confucian philosophy and social hierarchy (Pattison & Herron, 2002), along with guanxi established and implementation (Tran, 2015). It is harder to track and eliminate commercial bribery and corruption under this circumstance.

There is still some 'grey area' considered as breeding ground of bribery in Chinese pharmaceutical and healthcare sectors that makes corruption more difficult to detect with inherent intangibility. Normally establishing Guanxi is with gift giving for mutual benefits or common goals (Jiahong, 2015). Sometimes, Guanxi could be translated as connection of interest links (So & Walker, 2006; Su & Littlefield, 2001). Abuse and misuse of Guanxi are hotbeds of commercial bribery and corruption (Tucker, 2010), which lead to aggravating immoral conducts in pharmaceutical industry.

Due to the multifaceted and complex nature of bribery and corruption, it is extremely difficult to track down, and figure out effective solutions to tackle with it (Mackey et al., 2016). There are the unique risks posed by medicine-related bribery and corruption, it is urgent to fight against them in pharmaceutical industry. Especially in the Chinese business environment, pharmaceutical enterprises should enhance CSR awareness, strengthen self-management and self-discipline, and rational use of the Guanxi to build a fair and harmonious pharmaceutical competitive marketing system.

Moreover, a considerable proportion of drug prices took away by the middle links of marketing. A drug from pharmaceutical factory to the patient needs several layers of distributors and kickbacks, which resulted in the final price of the drug for customers several even dozens of times higher than ex-factory price. There still are a lot of intermediaries and gray areas in the process of drug distribution and transportation. The effectiveness and enforcement of current regulation and law are insufficient in pharmaceutical supply chain, which has resulted in unsafe and dishonest practices during transport and delivery (Yu et al, 2010).

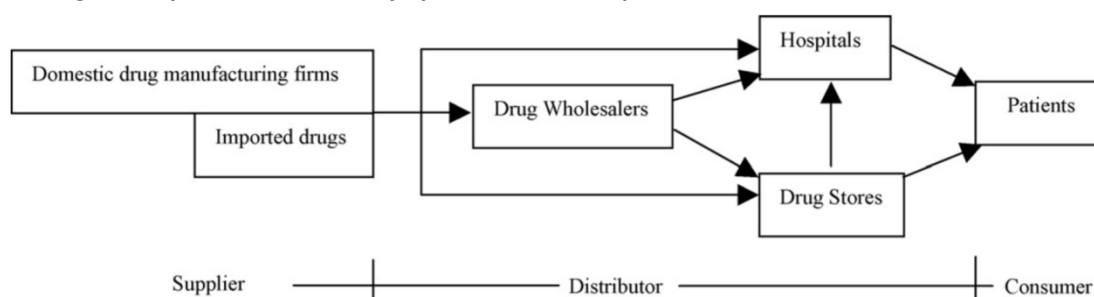


Figure 5.2: Pharmaceutical supply chain in China (Yu et al., 2010)

One of the most common corrupt behaviors in pharmaceutical industry is bribing doctors. Pharmaceutical companies with the purpose to increase sales (Caudill et al., 1996) assigned pharmaceutical sales representatives who bring product information and propaganda to physicians, which increased the risk of the occurrence of unethically marketing practices for promoting prescription drugs.

Intense competition in pharmaceutical market has triggered some companies to pay bribes to hospital doctors for increasing sales. Medical sales representatives bribe doctors using commissions, kickbacks, or gifts to promote prescription medicines for bring in sales, which have severe negative impact on doctors' drug prescriptions and medical practices. The bribery and corruption in promotion practices and marketing activities of pharmaceutical industry affects the quality of clinical care and damage patient's interests (Naqvi et al., 2019), jeopardize patient's health and wellbeing.

It is necessary to establish effective regulations and ethical guidelines to eliminate these unethical marketing practices due to bribery and corruption in pharmaceutical industry. The regulatory mechanism needs to put in place to supervise and control various promotional activities for medicine marketing by pharmaceutical companies (Zhang, 2019). Moreover, there is urgent need to make more efforts for building favorable moral environment for physician's practice to resist the temptation, curb unethical prescribing and stem the rapid rise in health costs. Pharmaceutical sales representatives should strengthen CSR awareness; comply with professional ethics and business rules, for a healthier and fairer marketing environment.

From the dimension of consumers/patients

Corruption is notoriously practices come with illicit payment is ‘common knowledge’ in China’s healthcare sector (Daily Mail, 2014). Especially, it is the unethical hidden rule among doctors to take bribery (ABC News, 2014). Giving kickbacks to doctors is common marketing practices for some pharmaceutical companies (Financial Times, 2013), with the purpose of occupying or gaining more market share with substantial profits in highly competitive pharmaceutical market.

When corruption and bribery intrude healthcare and medical system, it could bring devastating negative influence, threaten to general public health (Yang & Fan, 2012). It leads to high prices of medicines, accordingly significant increase in the healthcare cost, sacrifice the quality of healthcare public services, jeopardize the life and health of patients through over-examination, over-medication and over-treatment, leading to the deterioration of relationship between doctors and patients.

Corruption of pharmaceutical industry is aggravated caused by the meager salaries of doctors (Tian, et al., 2008), and the marketization in public hospital, which resulted in doctors become the primary target of commercial bribes. Prescription medicines are special products which need a doctor's prescription and under the guidance of a doctor. Most of doctor dissatisfied with their income and workload in China. Chinese medical system is dysfunctional in some ways, doctors' payment is insufficient, the meager incomes of doctors partly fueled and incurred corruption in healthcare.

the inappropriate incentive mechanism of hospital made doctor over-prescribing and over-treatment (Yip et al., 2010). The ‘marketization’ in healthcare system means public hospitals are commercialized and responsible for their own profits and losses. In this way, a considerable proportion of hospitals’ revenue is from drug sales; the distorted and perverse incentive mechanism leads to some doctors’ abuse of power in medical practices, imperiling the safety and health of patients.

Inevitably, these unethical behaviors damage the doctor-patient relationship and ultimately undermine the quality of whole care system of China (Zhang et al., 2014). It is in violation of medical ethics when doctors in hospitals prescribe medicines with consideration of economic interests, which seriously deviates from evidence-based clinical practices, and abuse of doctors’ power. In the eyes of many patients, doctors in China sometimes closely connected with prescription drugs abuse and excessive treatment and gray incomes (Tian et al., 2008). The image of a doctor transferred from “angels in white” to “wolves in white” (An, 2006).

It is very important to start from two aspects to crackdown bribery and corruption in the Chinese pharmaceutical industry. On the one hand, doctors should compliance with their career norms, resist material temptations and refuse to accept any form of bribery (Naqvi et al., 2019); on the other hand, pharmaceutical sales representatives in pharmaceutical companies should abide by professional ethics, and comply with the principle of fair competition (Patwardhan, 2016). Additionally, government must reform the governance and incentive mechanisms in public hospitals for establishing a stronger medical service system (Daemmrigh, 2013). A comprehensive overhaul for the unsound and dysfunctional healthcare system is urgently needed for curbing commercial bribery and ensuring safety and health of consumers.

From the dimension of government/authorities

In fact, Commercial bribery persistently exists and spread in China. It also seems there is consensus voice to formulate more rigorous legislation and regulation, strengthen anti-bribery surveillance, tighten enforcement for making sure punishing measures in place in order to fight against and crack down on bribery, which are of reason for the common good to maintain the public interest and safety (Chow, 2015).

The relevant government agencies can set a series of feasible practical and viable strategies to ban commercial bribery in for healthcare and medical system. Such as, forbid pharmaceutical sales representatives entering into public hospitals; moreover, the doctors should be prohibited from accepting any secret offering, rake-offs and other benefits provided any pharmaceutical companies (Esteban, 2008), otherwise they will be handed severe penalties.

It is necessary to accelerate the reform pace for the public medical institutions and hospitals, in order to meet the needs of the society and the wide population. Financial incentives mechanism and performance evaluation system for hospitals and physicians should reconstruct. Hospital bribery undermines fair and equitable marketing activities, interfere the normal running of hospitals, eventually violate the social order, threat of healthcare system security and stability. It is necessary to reconstruct hospital incentive mechanism (Yip et al., 2020), to maintain the social welfare nature of public hospitals and better perform public service functions.

China's State Administration for Market Regulation (SAMR) has made some efforts launched of a nationwide campaign to curb on unfair competition and crack down bribery. The campaign comes along with enacted key amendments to its Anti-Unfair Competition Law (AUCL) that is gearing up for strengthen control and supervision, enhance tougher enforcement of its anti-bribery laws (Allen & Overy, 2018).

There is need of more transparent and comprehensive disclosing CSR information and implementation (Hong & Dong, 2014). A high level of transparency is essential to minimize opportunities for bribery, and reduce loopholes of regulatory system to diminish the vulnerability of healthcare and medical sectors, for blocking inducement of unethical illegal conducts, in order to suppressing corruption and banning bribery in the Chinese pharmaceutical industry (Paschke et al., 2018). For example, Chinese government issued its national essential drug list in 2009 and implemented a zero-markup policy designed for enhance the transparent management to curb the bribery from drug prescription and sales, in order to promote the safety and appropriate use of essential medicines (Yi et al., 2015).

Although the existing anti-corruption countermeasures have played a certain role and exerted certain effects, it is not enough to achieve an ideal and fair environment of pharmaceutical market. More practical and feasible policy and regulation with well-functioning administrative mechanisms needed. Fundamentally, financial incentives mechanism and the corresponding performance evaluation system for physicians in hospitals should be reconstructed (Shi et al., 2018), for cutting off the interest chain linking between doctor diagnosis and drug sales to reduce corruption and bribery in the Chinese pharmaceutical industry.

5.5 Pricing and access to medicines

Chinese pharmaceutical industry has developed over the years. The fact is a large number of ethical issues are related to medical industry. Accessibility of medicines is one of the main aspects that need to improve in support of the human right to health (PLoS Medicine Editors, 2010), which is involved in availability and affordability of essential medicines for the poor and vulnerable populations (Quick et al., 2002). Improving access to medicines should start with two key aspects: the affordability is related to the appropriate pricing of medicines, and the availability is relevant to the range of medicinal products provided by hospitals and pharmacies (Xi et al., 2015).

According to The World Health Organization (WHO, 2011), essential medicines refer to the drugs that can meet the basic needs of public health have efficacy and safety up to standard with high of cost effectiveness, especially for basic medicines and vaccines, giving individuals' equal opportunity to be in good health. The oligopolistic market structure leads to inaccessibility and unaffordability of necessary medicines, especially to the people amongst disadvantaged and vulnerable groups. Nowadays, the access to essential medicines is regarded as human right. It is the universal right of humankind to enjoy inalienable rights to keep healthy and safety. The equality of subsistence right is considered as a priority in essential medicines and basic health care, which should apply to all people without distinction (Forman & Kohler, 2012).

China has made some progress in health system reform, but still a lot of challenges remain behind, due to the large population and regional diversity in China. Actually, it is necessary to make more efforts improve quality of health service, reconstruction of public hospitals incentive system, change uneven distribution of health resources, integration of fragmental healthcare delivery. Universal health coverage (UHC) is to ensure everyone has equal access to qualified and affordable health services when needed, in order to achieve the fair, health, well-being of human beings. Improve the access to medicines and healthcare refers to satisfy the priority healthcare needs of the population at all times, meet the basic needs of medicines for public health in the appropriate dosages with assured quality at an affordable price (Bigdeli et al., 2012), with the considerations of efficacy, safety, and reasonable cost-effectiveness.

It is necessary to provide more easy access to essential medicines and health care service for every individual (Moon, 2013). Equity related to health and medical fields implies to provide individuals' equal opportunity to be in good health (Marks, 2006). The equality of subsistence rights seen as a priority, with embracing the human right to health as a focal point for essential medicines and basic health care could be non-subjective and universal (Forman & Kohler, 2012). It is of general applicability to all people without distinction (UN Human Rights Council, 2009).

The pricing of drugs is always considered a quite controversial issue connected with accessibility to medicines (Vogler et al., 2017), especially in the case of some crucial medicines that could make the difference of life and death. In order to deal with this problem, the considerations of social expectations, economic determinants (costs of R&D and medical trials, risks, market failure), moral requirements, legal constraints as well as public repercussions all need to be taken into account (Kaltenboeck & Bac, 2018).

From the dimension of pharmaceutical companies

Pharmaceutical companies play a substantial role in accessibility and affordability of medicine (Ahmadiani & Nikfar, 2016). The inevitable responsibility of pharmaceutical industry is to improve the access to medicines based on CSR consideration. The top leading pharmaceutical companies with sufficient manpower, financial and material resources for developing and manufacturing medicines, have responsibility to better the access to essential healthcare and basic medicines, which should be considered as inescapable moral and legal obligation of the large and powerful pharmaceutical corporations for ensuring healthy lives and promote wellbeing of the public.

The access to medicines is basic foundation to safeguard health as a human right (Wirtz et al., 2017). Pharmaceutical companies should engage in strategic business activities that are consistent with CSR about human right to health (Gruskin & Raad, 2010; Hunt & Khosla, 2010). CSR commitments about improving medicine access include R&D innovative medicines, reasonable pricing (Esteban, 2008), manufacture and distribution safely, appropriate and reasonable scope of patents and licensing, ethical marketing, product donations and relevant philanthropic activities, and so on. Pharmaceutical companies should not evade their responsibilities to enhance access to safe, effective and affordable medicines (Banerjee et al., 2010). CSR violations not only are condemned by morality, but also bound by law.

One of the main barriers of medicine access is that some profit-motivated companies are focusing on putting profits first for companies, and no focusing on putting health first for the customers. According to Abbott et al. (2009), the current pharmaceutical system faced the tension of the contradiction: On the one hand, the need of provide wider access to medicines at fair and affordable prices for the sake of public health for a thriving society (Gruskin & Raad, 2010). On the other hand, top pharmaceutical companies developing innovative products for exclusive patent rights in an attempt to monopolize the pharmaceutical market with high prices to make huge returns in a for-profit business purpose (Osuji & Umah, 2012).

The oligopolistic feature of the pharmaceutical industry provided top companies huge power to influence customers, to set extremely high prices and price markup for their patented medicines. Misused and abuse of patent rights lead to diminish the access to life-saving medicines, because the patent holders have more power to charge a higher price for their patent products. It is expected to reduce extreme monopolistic privileges of innovative life-saving medicines to provide a lower price for patients in need (Gammie & Babar, 2015). It is crucial to alleviate the anti-competitive behaviors, especially the abuse of intellectual property rights and patent rights for price fixing, in order to ensure access to medicines and medical services.

Pharmaceutical companies who have medicine patents should not only consider to using patent protection for the company's economic benefits (Perehudoff & Hoen, 2018), and neglects the social obligations undertaken by pharmaceutical companies for human health (Hunt & Khosla, 2010). Meanwhile, based on the WHO, the fair price refers to set an appropriate price ensures that medicines are affordable for the general public, at the same time, there are still have room for reasonable profit for companies to stable product supply (World Health Organization., 2007).

For corporate sustainable survival and development, there is the need to establish a balance between public interest and private benefit. Pharmaceutical companies have responsibilities for human rights to health in relation to access to medicines (Lee & Hunt, 2012). Meanwhile, pharmaceutical companies still are business organizations and commercial units, which also need to take the economic responsibility. It would be unjust to a company to sell their products with the price lower than cost, since it would threaten the survival of a company (Hestermeyer, 2007).

It is definitely not need of overly demanding CSR commitments with the considerably large economic sacrifice, pharmaceutical companies cannot dismiss and ignore their economic responsibility. Engaging in CSR practices and activities cannot hamper the survival and sustainable development of companies, and dampen the enthusiasm of drugs R&D, due to without retained profits and lack of adequate funding.

Pharmaceutical companies have responsibility to contribute for improving the access to medicines and the healthcare services for patients in need (Grover et al., 2012), to help people for realizing the right to health (Ritter, 2010). Sometimes, for some giant companies, increasing accessibility for essential medicines and health care services for poor people (Droppert, & Bennett, 2015) would not jeopardize the corporate profit margins that have already above average. If without the cooperation and support of pharmaceutical companies, all the ways to improve medical access are all empty talk in some extent, and have little practical significance. That is to say, pharmaceutical companies can have significant influences on enhancing the access to medicines to guarantee people's health on a sustainable basis (Ahmadiani & Nikfar, 2016).

From the dimension of consumers/patients

Corruption in pharmaceutical industry impeded the people's access to medicines and healthcare (Rose-Ackerman & Yan, 2014), lead to a vicious cycle with inappropriate treatments, increased the cost of medicines and medical services, undermined the quality of healthcare delivery and outcome (Chattopadhyay, 2013). It jeopardized the equal access to affordable basic healthcare and medicines for everyone. It is eroded or even exists in name only that the benefits come from CSR implementation and the efforts from the reform of pharmaceutical policy and healthcare system. It is urgent to curb unreasonable inflation of medical expenses and cost (Zhuang, 2012), which has undermined government efforts to provide national universal health coverage (UHC), and make it more difficult to ensure increased access and improve quality for basic healthcare and essential medicines to a larger population (Daemmrigh, 2013).

Due to the serious information asymmetry, consumers are in a passive position, and only follow the advice of doctors. Doctors have the right to decide what kind of drugs to use for treating diseases (Tam, 2011). It makes them become the main target of bribery in pharmaceutical industry. Some profit-motivated doctors tempted by bribes, intended to obtain illegal grey income. Unnecessary treatments increase the cost of health services and financial pressure of patients, resulted in the escalation of health expenditures in China. It is need for reinforcing medicine information openness and transparency in the Chinese healthcare system (Xu & He, 2019), for controlling the cost inflation, supporting and promoting access to health.

In addition, public hospitals increased economic autonomy with improper financial incentive in China. The distorted pricing pattern and payment mechanism provided opportunities for doctors to over-prescription and over-treatment, which has become a significant cost driver in medical services (Yu et al., 2010). Chinese health system is afflicted by inappropriate incentives of hospitals and the erosion of medical ethics, which resulted in some negative influences, including spiraling cost increase, poor medical service quality, inefficiencies, unaffordable medical and healthcare services, hindered the access to medicines for a wider population (Yip et al., 2010). It is vital to reform the sclerotic public health system in China, and build a stronger regulatory system of public hospitals (Yip et al., 2012), to provide safe, efficient and affordable medicines and treatment for patients.

It found that rampant corruption and bribery in pharmaceutical industry is one crucial reason for the high pricing of drugs (Wang et al., 2018), a considerable proportion of drug prices took away by the middle link of marketing (Rose-Ackerman & Yan, 2014). In China, the price of a drug is not set by the original pharmaceutical factory. A drug from the pharmaceutical factory to the hands of consumers commonly have several layers of distributors and kickbacks, which make the final price of a drug several or even dozens of times higher than ex-factory price, accordingly lead to aggravate the economic burden to patients. Government needs to formulate more effective policies to promote and deepen of the reform/restructure of health delivery system for control the price of medicines (Meng et al., 2015).

In China, there is serious shortages of well-trained competent medical professionals in healthcare workforce (Qin et al., 2013), facing a tremendous demand of the health care (Luo et al., 2017) and lack of medical personnel and talents. The geographical disparities and rural-urban difference are huge in the allocation of healthcare and medical resources. Some rural areas, there are still the extremely backward medical conditions and lack of essential medicines in China. It led to the different health outcomes for different populations (Ministry of Health of China, 2012). It exacerbates the difficulties of improving access to medicines for the poor in the remote rural area.

The proper health infrastructure is particularly important to achieve the expected and desired treatment result, which make ordinary individuals to use medicines correctly, reasonably and effectively, and for enhancing the access to emergency and surgical care (Hsia et al., 2011). It is necessary to build up the standard infrastructure for the improvement in access to healthcare services in remote poor areas. The hygienic condition is also important to achieve drug treatment and medical care. However, sanitary condition is obviously lacking in some rural areas (Barjis et al., 2013).

There are myriad of challenges about healthcare access in rural areas, where lack of access to innovative medicines, poor healthcare infrastructure, inadequate medical monitoring of patients with chronic or serious diseases (Barjis et al., 2013), weak supervision system for preventing basic medical errors and negligence. All these hindered the access of healthcare for people living in remote rural areas (Jiang et al., 2013). Government should take measures to enhance medical conditions in remote areas. There is complex involvement in health financing and investment, medical human resources, establishing effective health information management and service system, which all should take sufficient consideration (Bigdeli et al., 2012).

From the dimension of government/authorities

The targets of the national healthcare reform are for making healthcare more accessible and affordable, curbing public healthcare institutions' reliance on profits from drugs and improving healthcare delivery, etc. (Wu et al., 2017). Doctors' profit-oriented practices in public medical institutions were widespread in China. Over 45% of tertiary hospitals' revenue came from drug sales (Liu 2010), which compromise of ethical principles in medicinal practices due to perverse incentives (Yip et al. 2010).

In China, the poor governance structure and distorted incentives in public hospitals make doctors become profit-minded, and take benefits from selling prescription drugs (Chen, 2010), for compensation for the financial shortfall (Barber et al., 2013). it is essential to reconstruct the healthcare financing and payment system to remove improper profit incentives to doctors for curbing over-prescription, and reestablish medical professional ethics for protecting patients' benefits and control cost inflation (Blumenthal and Hsiao 2015). Moreover, to set up an integrated healthcare delivery system is supposed to be more responsive to the challenges of urbanization and industrialization, compared to the hospital centered and fragmented delivery system (Yip & Hsiao, 2014). It can curb kickbacks and bribes in the grey zones and middle links of drug distribution in order to control the price of medicines.

There exists a relatively underdeveloped regulatory regime in the pharmaceutical industry (Fang, 2017). The pharmaceutical policies and laws should aim at providing the availability and affordability of medicines to ensure equitable access to essential medical treatments (Singh, 2018), which requires the review and refocusing of the pharmaceutical policies, regulations and multi-faceted interventions from government.

The accesses to essential medicines play a core role in guaranteeing the medical services and outcomes (Maiti et al., 2015). Government intervention plays a vital role in price control of essential medicines. In April 2009, the Chinese government enacted the National Essential Medicine System (NEMS) to control drug prices to provide better medical access and services for the public. The NEMS targeted to increase the availability and affordability of essential medicines and reduce patients' economic burden (Fang et al., 2013), and enhance sensible use of medicines. The policies covered the selecting, pricing, manufacturing, procurement, distribution, utilization and reimbursement of essential medicines (Song et al., 2018).

In recent years, under the healthcare system reform in China, government has adopted and implemented some policies to improve access to medicines. For example, Chinese government introduced the national essential drug list in 2009, and implemented a zero-markup policy designed to curb bribery, in order to promote availability and affordable, safety and appropriate use of essential drugs (Yi et al., 2015). The purpose of healthcare overhaul focused on controlling drug costs, ensure quality and safety of essential medicines, and reducing the irrational overuse of drugs, especially, the excessive use of steroids and antibiotics (Xiao et al., 2013). Furthermore, it is important to deepen the reform of medical policy and healthcare system through promoting the centralized drug purchasing (Chen et al., 2016), to establish an open, transparent and multi-party negotiation mechanism for reducing the price of medicines (Yip & Hsiao, 2009).

China's government made efforts towards universal health coverage, and achieving a universal medical insurance has covered up to 95% of the population in China in order to lower patients' financial burden (Blumenthal and Hsiao 2015). Nevertheless, China's national health insurance has characteristics with wide coverage, low level and lack of outpatient care, with cumbersome reimbursement procedures. Deficient health insurance system led to the high proportion of out-of-pocket expenditure for healthcare and medicines that means high self-payments as patients' own expenses (Li & Fu, 2017). China's health insurance has three major gaps, including inadequate reimbursement of outpatient services; insufficient guarantee for treatment of patients with serious diseases and chronic diseases; geographical restrictions and disparities of medical insurance with local variation caused by different regions with discrepancy in financing capacity (Meng et al., 2015). It is necessary to enhance the social health and medical insurance system towards cost-efficient healthcare system in China.

The Chinese government already has to take further actions for consolidation and improvement of health insurance schemes to reduce the medical burden of general public. It is a good step that policy makers in authority aiming to gradually increase the reimbursement rate for outpatient care and to expand the scope and coverage of health insurance, widen the benefit package (DU PR, 2017). It is the need of feasible mechanisms to support the effective and efficient use of limited financial resources. The developing of tiered-pricing scheme for differential pricing of medicines (Daems et al., 2011) has been proposed as an approach (Chen et al., 2016) for improving the access to high-price patented medicines in developing country (Moon et al., 2011). High medicine prices threaten the feasibility and sustainability for universal health coverage (UHC) (Yip et al., 2019). Carry out differential medicine pricing is a critical strategy to improve access to medicines for the poor and vulnerable population, with varying prices for on-patent medicines based on different affordability, which could compensate for R&D investment of pharmaceutical companies, meanwhile allowing the neediest patients to have access to innovative drugs (Williams et al., 2015).

Using compulsory licensing arise in the era of high-pricing medicines (Son et al., 2018), which is socially beneficial to the public interest, for certain disease-curing and even life-saving medicines in short supply. Compulsory licenses on medicine patents could make more poor people obtain better access to expensive patented medicines (Gao et al., 2017), which might otherwise be unaffordable for these poor patients (Son, 2019). Some leading pharmaceutical companies would rather reduce prices for their drugs than open the access of some medicinal proprietary technology to the public area. In fact, the main purpose of issuing a compulsory licensing law is to serve as a tool to pressure some pharmaceutical companies, especially leading MNCs to reduce prices of their patented products (Chow, 2017) for poor patients in urgent need, to optimize the allocation of critical disease-curing medicine resources, and maximize the welfare of the majority of people (Li, 2017).

Government should establish the regulation and legislation make pharmaceutical companies mandated to act in favor of the wider access to some urgently needed medicines. To formulate relevant laws by national institutions and authorities is for transforming some crucial company's moral obligations into the compulsory legal obligations (Ooms & Hanefeld, 2019), to improve the access of vital and life-saving medicines for low-income or disadvantaged groups.

5.6 Waste of medical resources

In recent decades, the demand and use of medicines have a marked increasing in global scale (Busfield, 2010), due to the continuing expansion global population and increase ageing demographic along with the rise of chronic diseases.

However, more than 50% of patients worldwide failed to take their medications properly (World Health Organization, 2011). It estimated that over half of all medicines are prescribed, sold or dispensed inappropriately in worldwide (World Health Organization, 2012); half of all patients fail to take their medicines as directed as prescriptions (Holloway 2011; WHO 2010). It not only brought adversely impact on individual health, and also caused a huge waste of drugs. Moreover, the disused medicines discard and disposed inappropriately result in extensive resource waste with significant adverse influences on ecosystems (Thomas, 2017).

Irrational and inappropriate use of OTC medicines is very dangerous, which leads to serious consequence. On the one hand, the direct adverse consequences caused by repeated medication, big dosage, negative drug reactions, drug-drug interaction, etc., which bring the danger of serious damage to health; on the other hand, the indirect adverse consequences included delaying in seeking appropriate medical treatment under timely helps from doctors, the waste of medicine resources, the adverse effect on the environment etc. Medication errors in the use of nonprescription drugs is easy to occur when consumers lack of professional instruction and medicine information (Somnath, 2002), which generate various health risks, including misuse, intentional or accidental overdose, even addiction in humans (Haughey et al., 2019), as well as cumulative toxicity in body, immune suppression, develop drug resistance, leading to the waste of medicine resources.

What is more, corruption in pharmaceutical and healthcare system is one of the main reasons of excessive waste of medical resources, especially doctors' bribery in some situations (Chen et al., 2014). Some Chinese doctors with desire to receive some of under-the-table payments for supplement their low incomes (He, 2014). Some profit-motivated physicians are tempted by illegal income and kickbacks (Bloom, Han, and Li, 2001), who overprescribe medicines to patients in pursuit of the economic benefit, increase unnecessary medication and treatment with negative effects on patients' health, which result in the waste of medical and healthcare resource.

Appropriate and rational utilization of medicines means proper prescribing based on reasonable diagnosis and drug efficacy, which is effectively and safely suitable for patient's physical condition, with cost appropriate dosage and duration of treatment (Chalker, 2011). Reasonable use of medicines can reduce or avoid the incidence of adverse drug reactions, antibiotic resistance, disease masking, delayed treatment, drug interactions, and wastage of pharmaceutical resources (Limaye et al., 2017).

The products manufactured by pharmaceutical companies are medicines, which are incredibly specialized with complicated characteristics. It determines people's quality of life and health levels (Min et al., 2017). The efforts of pharmaceutical companies about rational and proper utilisation of medicines include improving medicine quality and efficacy, reasonable pricing, fair and legal promotion and advertising, etc.

From the dimension of pharmaceutical companies

There is a high degree of information asymmetry resulted in a potential driver of abnormal returns in the pharmaceutical industry (Schöner et al., 2017). Medical products are only understood by a few medical research professionals in the pharmaceutical field, sometimes even doctors and pharmacists themselves do not fully grasp every drug's ingredient and effect with sufficient information. When companies take economic interests as their primary goal, they will exaggerate their propaganda for sales and promotion, resulting in excessive purchase and consumption of drugs, accordingly spur the waste of medicinal resources.

In terms of improving resource utilization to reduce resource waste, pharmaceutical companies should strengthen R&D investment, improves manufacturing equipment utilization, improve production efficiency, and increase rational and effective use of existing resources (Moniz et al., 2015). It is important to use as few resources as possible to produce more safe and efficient drugs to improve resource utilization. Furthermore, pharmaceutical companies need to advance in pharmaceutical science and manufacturing technology (Larson, 2004), for upgrade quality of medicines with better curative effect and fewer side effects, in order to diminish the waste of the pharmaceutical industry.

However, overpriced drugs (Wang et al., 2018) are caused by abuse of patent rights. The oligopolistic features of the pharmaceutical market give leading companies huge power to influence customers (Ching, 2010), especially amplified by multinational companies (MNCs) reach their power and influence worldwide. For example, some huge Pharmaceutical MNCs use their monopolistic position to set extremely high prices for their patent medicines, resulted in elevating the medical costs. Therefore, it is of significance to control the abuse of patent rights by anti-monopoly law.

On top of that, corruption in pharmaceutical industry is considered as another main cause of the waste of medical resources. Pharmaceutical companies should actively cooperate with other relevant parties who involve in providing medicines and health services with CSR consideration for improving overall cost savings of pharmaceutical expenditure. A substantial proportion of the price of medicines comes from multiple layers of distribution and deliveries (Yu et al., 2010) with kickbacks and commissions. Some medical sales representatives lobby doctors to promote drug purchasing with financial incentives, resulted in over-examination, overprescription and overtreatment. Bribery and corruption in the pharmaceutical industry inevitably intensified the waste of medical resources.

Pharmaceutical corporations have significant influence on pharmaceutical research and development, manufacturing, promotion, and consumption. In China, it is still a long way to establish a maturity and soundness healthcare system (Blumenthal & Hsiao, 2015). There still are some strains and conflicts need to face and improve in the Chinese pharmaceutical industry. So pharmaceutical companies should enhance CSR awareness, strengthen self-supervision and self-regulation, provide guidance and instruction for rational and proper utilization of medicines, truthful advertising and promotion, improve the quality of medicines, fair and equitable access to health care, crackdown commercial bribery and corruption, in order to build cost-effective and resource-efficient medical system and pharmaceutical industry.

From the dimension of consumers/patients

There are evidently two main causes of waste of medical resources from perspective of consumers as following: On the one hand, misuse and irrational of medicines can endanger health, delay the treatment and cause adverse drug reactions. for example, overdose and overuse of antibiotics leads to drug resistant and super bacteria (Baye & Sada, 2018). On the other hand, improper disposal of disused drugs is an alarming issue nowadays, which rapidly gains more and more attention from both healthcare professionals and consumers (Chasler & Subramaniam, 2011). Public education and publicity measures about how to correctly disposal of unused medicines are equally importance as how to properly take and consume of medicines (Kadam et al., 2016).

Improper self-medication brings negative influence (Aqeel et al., 2014), involved in use of expensive low-efficacy, low safety drugs without proper professional direction, instruction and guideline. Advertisement has great influence to shape the consumers' purchasing decisions when choosing which medicine products to consume (Boström, 2011). The exaggerated OTC propaganda and advertising affected and stimulated people's desire to buy medicines, resulted in excessive consumption, even mislead some consumers to buy large quantities of placebos with little therapeutic effect, It leads to unnecessary waste.

Excessive use of drugs not only causes waste and environmental contamination, but also endangers the patient's health. In China, the common phenomenon is the abuse of antibiotics (Wang et al., 2017). Overuse of antibiotics is considered an extensive problem led to drug resistance and super bacteria (Ramya & Sankar, 2018) that normally have to be treated with more powerful and more expensive medicines. Antimicrobial resistance (AMR) has posed a serious threat to human health, which is caused by the irrational use of antibiotics (Goossens et al., 2005; Toska and Geitona, 2015), and improperly disposal unwanted or expired drugs containing antibiotics.

Obviously, antibiotics prescribed more frequently in hospitals in China than in other countries (Zhang et al., 2008). It is widely misunderstood that injections or infusions of antibiotics per se are therapeutic in China, which are often mistaken for making the physical condition of patients recovering in a short time and achieve the desired result (Li et al., 2012). In China, the outpatient rate of antibiotic use is from 40% to 60%, compared with 15-18% in the United States (Dong et al., 1999; Roumie et al., 2005). Over prescription of antibiotics and injections remain common prevalent in China. Antibiotics almost account for half of the prescriptions in China, which is far more than the standard recommended by the World Health Organization (WHO) (Dong et al. 2008; Jiang et al. 2012; Li et al. 2012; Yin et al. 2013). What is more, it estimated that about half of antibiotic prescriptions were medically unnecessary in China (Sun et al., 2008).

There is emergency need for a multi-faceted response to keep down unnecessary prescription and treatment, including strengthen cultivation and training of qualified doctors, improve the professional moral of medical workers, and changing irrational financial incentive policies in the healthcare sector (Reynolds & McKee, 2011), to intensify effective supervision and enforcement of the relevant law on overuse of antibiotics, along with a public-targeted educational campaign to reduce misuse of antibiotics (Chen et al., 2018).

From the dimension of government/authorities

WHO has advocated essential medicines program as the key intervention for promoting rational use of medicines (WHO, 2011). China embraced it (Guan et al. 2011), in 2009, China started a multifaceted national essential medicines program (NEMP) (Chen 2009). It is a new policy as part of the national healthcare reform initiatives, which is consistent with the WHO standards. China's national essential medicines program (NEMP) has the primary aim to improve the serious problem about the irrational use of medicines (Gong et al., 2015). It designed for eliminating distorted economic incentives (Song et al., 2014), to curb overprescribe or prescribe unnecessarily expensive drugs (Chen et al., 2014) in health system.

It is concerns that the perverse financial incentive to doctors was one of essential reason of irrational medicine use. Some doctors can obtain a fixed kickback of profits by over-prescribing medicines (Yang et al. 2012). Government should adopt effective policies to reconstruct hospital incentive mechanism, which significantly contribute to the improvement related to healthcare providers' irrational prescribing behaviors and patterns (Yip et al., 2020). There is need a range of feasible measures carried out to improve pharmaceutical marketing practices with CSR ethical and legal standards in the interest of public health and build resource-efficient healthcare (Mulinari, 2016).

Separation of Dispensing from Prescription (SDP) needs to be further adopted and implemented in hospitals, to cut off the interest chain linking and benefit connection between doctor diagnosis and drug sales. Separate of Dispensing from Prescribing (SDP) refers to doctors have the right to diagnose patients and prescribe drugs, but no right to audit and dispense medicines. Pharmacists have the right to participate in audit prescriptions and dispense medicines, and no right to diagnose and prescribe (Greiner et al., 2017). It makes doctors could not be driven by the economic interests of drug promotion, for ensuring the rationality and standardization of drug utilization (Xiao-yun, 2011). It can substantially reduce the price and dose of the prescribing medicines (Chen & Wu, 2011); consequently, reducing waste of medical resources.

The waste and squander of healthcare and pharmaceutical resources in China is shocking, especially China has a huge population with a huge demand for drugs. China promotes the 'Healthy China' strategic (Tan et al., 2017), and emphases on flourishing medicine industry and widening healthcare services nationwide, which hampered by wasteful and less cost-effective medical services, and undermined by waste of medical resources, and inadequate service quality of healthcare system.

Unbalanced geographic distribution of medical resources makes it difficult to actually benefit the patients in remote areas. There is a huge gap between urban and rural areas. On the one hand, the wealthy patients in the cities are squandering medical resources; on the other hand, the poor people in remote rural areas are lack of the qualified medical professionals, with inadequate medical infrastructure and facility. It is urgent to reallocate all kinds of medical resources rationally, fairly and reasonably, to alleviate the regional inequality of medical and healthcare resource allocations nationwide (Jian et al., 2015). Government needs to formulate effective and feasible laws and regulations and achieve cost-effective and resource-efficient healthcare system, for improving the inequitable and inefficient allocation of medical resources.

5.7 R&D and patented products

The latest scientific and technological achievements of human beings are always tended to be used by the life science and closely related to medical field. New drug research and development innovative drugs in the pharmaceutical industry are in a pivotal position (Cardinal, 2001). In order to enhance corporate reputation to build corporate advantages, pharmaceutical companies started significantly involved in public affairs to increase social value. One of the most vital CSR of pharmaceutical companies is developing groundbreaking innovative medicines for the benefit of public health. R&D capability is the guarantee of corporate competitiveness, and the paramount for corporate survival and sustainable development.

Pharmaceutical companies invest in R&D of medicines play an important role for providing accessibility to medicines for health. R&D innovative drugs are not only for the economic benefit, aimed at lucrative gaining wealth and financial profit as more as possible for companies; more important, it should address the social burden of treating disease and invent new treatment method for previously incurable diseases, to relieve pain and alleviate suffering for patients. Drug innovation has a profound effect on people, resulting in extended longevity and better quality of life (Kumar & Sundarraj, 2018). Pharmaceutical R&D should base on the common good for human right to health, instead of only putting the emphasis on profit calculation.

In recent years, China has been experiencing a rapid growth in the pharmaceutical industry, with increasingly focusing on innovative medicine R&D (Qiu et al., 2014). Nowadays, pharmaceutical companies undertake R&D for cutting-edge innovative medicines need to face more challenges with increased competition, new science and technology, the rising costs and risk, the better-informed and more demanding users (Smits & Boon, 2008). The pharmaceutical industry is a technology-intensive industry. Developing high-tech innovative drugs and advanced medical services are the most significant CSR achievement in pharmaceutical industry.

There is need of adequate innovative capacity and sufficient R&D investment and fundings to improve curative effect and quality of medicines, in order to achieve the desired treatment outcome and result. R&D for pharmaceutical products is lengthy with huge R&D cost and high degree of uncertainty (DiMasi et al., 2016). Patent right is considered as incentives and encouragement for R&D (Grabowski et al., 2015), intended to compensate the huge cost in the R&D stage, to accelerate the discovery, research and development groundbreaking medicines and treatments. There is the contradiction between the health-driven for public expectation and the market-driven for financial benefit. On the one hand, innovative drugs make it possible for treating intractable diseases. On the other hand, the high-price innovative drugs make many patients hesitate and setback (Simoens, 2011).

Most of corporations favored the profitable products instead of the truly needed ones, because of the high risk, huge investment and long-term R&D process (Chen et al., 2018). However, the core value of pharmaceutical industry is to benefit human health that is beyond maximizing corporate profitability. The more importance is achieving technological breakthroughs, and boosting research and development of medicines for curing under-researched diseases and neglected diseases (Trouiller et al., 2001),

From the dimension of pharmaceutical companies

Pharmaceutical industry is a time-intensive and knowledge and technology-intensive industry. In China, the characteristics of the pharmaceutical industry is famously known for its mass-production of low-level generic drugs for a long time; and the same times, China as a 'world factory' of active pharmaceutical ingredients (APIs), less involved in real innovative medicines (Kermani & Zhou, 2007).

Although China has significantly improved of the pharmaceutical innovation level, its pharmaceutical R&D is still in the relatively early stages with only a limited output of innovative drugs to date (Grimes & Miozzo, 2015). There are two main phenomena in product R&D Chinese in pharmaceutical industry: firstly, there is a large number of duplications and a low level of R&D (Ding et al., 2011); secondly, there is the serious waste of resources and acute shortage of innovation resources and capability (Qiu et al., 2014). Consequently, there is the relatively lack of distinctive local brands with groundbreaking medicines in Chinese pharmaceutical industry. Excessive production of homogeneous generic drugs is for the same efficacy of duplicated products with low value-added and low technology, which leads to the exacerbated and unordered market competition (Ni et al., 2017). As a result, a large number of inferior generic drugs are in excess meanwhile original innovative drugs are in short supply in China. There are more than 5,000 pharmaceutical enterprises under excessive competition (Yu et al., 2013) of low-end and low-effect medicines with low-technology imitation medicines in China, which also results in enormous waste.

China's domestic pharmaceutical companies are scattered and fragmented, resulted in insufficient strength and capacity for pharmaceutical D&R, coupled with a lack of patented pharmaceuticals domestically (Grimes & Miozzo, 2015). Currently, most of drug manufacturing companies are small and medium sized/scale in China, with a scattered geographical layout, high fragmentation of industrial structure, dispersed resources, backward management structure and outdated manufacturing technology, which have not enough power and strengths to undertake R&D risk. In the situation, most of domestic pharmaceutical companies are mainly focus on generic drugs with duplicated production, come along weak trading competitiveness in a lower market concentration (Yu et al., 2013). Few pharmaceutical companies in China are willing to invest R&D innovation; most of them would rather spend money on advertising and marketing than R&D. With remarkably booming economy, the Chinese domestic pharmaceutical companies need to switch its focus from imitation to innovation.

The current situation of medicine R&D in China is in a backward state. China's drug R&D capabilities still obvious lag behind the developed countries (Ding et al., 2011). For now, the level of drug R&D in China is mainly in the stage from combination of imitation. For most of domestic enterprises, developing me-too drugs or better me-better drugs with similar efficacy and safety is based on new drug products (Cheng et al, 2011), which is a feasible innovation path and mainstream direction to improve and develop domestic R&D capability of medicine products. It is necessary to make efforts to enhance the technological capabilities and innovative competencies in the pharmaceutical industry, make remarkable progress in science and technology for medicines (Ren & Su, 2015). Only in this way can China gradually transform from a big country of generic drug manufacture to a country of powerful innovative capability for pharmaceutical development and production (Hu & Zhang, 2015).

From the dimension of consumers/patients

With the rapid development of economy, people's income and living standards have greatly improved (Lin et al., 2016). Many Chinese people have started cultivating healthcare awareness with increasing healthcare standards and demanding seeking for better medicines and healthcare. People pay more and more attention to their health status/conditions, and are willing to pay more for their health (Tripane, 2017). Over the past decades, with the acceleration of population aging and the change of lifestyle, the incidence of chronic diseases has increased significantly in China (Ni et al., 2017), which increase people's expectation and demand for innovative drugs.

Pharmaceutical innovation intends to meet unmet healthcare needs, to relieve and prevent patients' suffering pain, bringing hope and possibility of survival to patients. Even play a key role of sometimes influence people's life and death. Pharmaceutical innovation creates an enormous amount of social value, improves the quality of life and enhance people's life satisfaction, which generates the improvement that were previously unattainable for human health (Morgan et al., 2008). It is the foundation for promoting human and social welfare.

It is a long-standing controversial topic that R&D medicines should be need-driven to develop life-saving medicines for human health; or be profit-driven to gain economic profits for pharmaceutical companies. The core purpose of R&D medicines is to cure diseases for achieving previously unattainable medical efficacy for patients in need. However, companies engage in R&D activities, normally with consideration of highly profitability. The decision of pharmaceutical companies for R&D investment is highly calculated that is inclined towards developing and producing profitable medicines, according to expected profits, not for prioritizing medicines that are most in need by poor people, in order to enhance global health (Wirtz et al., 2017).

The contradiction in medicine R&D is that the long-term, costly and risky innovation processes (economic aspect) encountered with high expectations of patients related to the accessibility of innovative medicines and life-saving treatments (social aspect) (Taylor, 2015). Most of corporations prefer to profitable medicine products instead of the truly needed ones to treat the previously incurable diseases to benefit humanity (Love et al., 2007). For example, actually few pharmaceutical companies are willing to R&D orphan drugs for rare diseases due to the restrictions of economic interests (Rodriguez-Monguio et al., 2017). Orphan drugs that treat a rare disease need to be developed (Gericke et al., 2005) and manufactured, the medicines for rare diseases in short supply (Melnikova, 2012). Because they are so rare, only selling to a small group of patients faced the limited market with weak economic incentive, finding a treatment for a rare disease is challenging with huge investment and high risk, which would not be profitable to produce without government assistance.

Pharmaceutical companies are responsible for developing innovative medicines, to treat a serious or life-threatening disease effectively (Baird et al., 2014). The R&D and innovation capabilities in the Chinese pharmaceutical sector remain weak (Ni et al., 2017). It is necessary to strengthen regulations and legislation, and formulate better-targeted government policies, which is conducive to improve pharmaceutical market, and stimulate the development of new drugs for neglected diseases, to more closely match the needs of the public (Moran, 2005).

From the dimension of government/authorities

Chinese government has carried out a series of reform measures for reshaped the pharmaceutical industry structure, encouragement high technology manufacturers for high-end pharmaceutical products (Chitour, 2013). The purpose of transforming medical and health system is to producing effective outcomes that could contribute for societal wellbeing and human health, meanwhile, still provide long-term economic benefits for pharmaceutical companies to engage in R&D activities and corporate sustainable development (Schweitzer & Lu, 2018). The new pharmaceutical system encourages or entices companies to invest in R&D medicines, and provide financial rewards and policy privileges for corporations to develop innovative medicines that would have great positive impacts on populations (Califf & Slavitt, 2019).

In the past 20 years, China adopted many international standards for pharmaceutical intellectual property right (IPR) protection for stimulating innovations, which have played critical roles in drug development in China (Lu et al., 2015). The intellectual property rights have improved in China (Cai et al., 2018) and therefore attracting a large number of multinational corporations (MNCs) to open their R&D centers in China (Jolly et al., 2015). It is improving R&D environment to attract and utilize the R&D investment in China.

The role of patents in drug innovation that influenced on pharmaceutical market can be summarized as follows two opposite aspects (Grabowski et al., 2015). On the one hand, strengthening IPR protection can spur innovation (Zheng & Song, 2012). R&D a new drug into market is very costly, need to invest the billion dollars to with long process and high risk, if without the protection of IPR (Intellectual Property Rights), the pharmaceutical companies will face to instantaneous competition from innumerable manufacturers with low-priced generic copies. They have no chance to compensate the cost of R&D, accordingly, reduce the financial incentive to innovate. On the other hand, the patents and IPR protection also have some negative impacts including hinder economic growth (Gold et al., 2010), impede technology spreading; weaken competition and worsen market monopoly. Moreover, some pharmaceutical companies with monopoly power can charge outrageously high drug prices, which increase the economic burden of patients, restrict access to the advanced therapies and medicines for people without sufficient ability to pay (Grootendorst et al., 2011).

IPR (Intellectual Property Rights) protection prevents generic medicines entering the market for a limited time, which allows the innovator to set high price to recoup R&D costs (Gibson, 2017), gain colossal profit and obtain generous return. The monopoly power resulted in the fixed high prices for some life-saving medicines. There is need to urge pharmaceutical companies to make efforts aligned with the common good for public good and welfare (Gronde et al., 2017).

The current situation has provided pharmaceutical companies' high rates of return on investments for R&D patented products; giant corporations held patented medicines with the monopolization and exclusive right have chances for gaining huge economic interests and profits successfully from their patented products. Currently, the medical market with oligopoly by a small number of large companies caused a lack of sound and fair competition in the industry (Foster, 2019), resulted in medicine R&D skewed towards profits rather than health needs (Vargas-Peláez et al., 2017).

Moreover, overlapping bureaucracies make the approval process of patented drugs complex and lengthy, which lead to pharmaceutical companies less enthusiastic on R&D innovative drugs (Luo, Y. 2008), slow down the approval process of medicine approving for high-end products; high-quality innovative drugs cannot market input and benefits the people in time (Steven et al., 2011). Complex and cumbersome bureaucracy with layers of overlapping authority discourage R&D in pharmaceutical industry, resulted in low-efficiency in approval agencies, which is a serious handicap to motivate R&D medicines.

CFDA (China Food and Drug Administration) needs to encourage drug innovation to meet the unmet medical needs for human health in China in parallel with the US, EU standards. In February 2016, CFDA announced a new Priority Review and Approval Procedure to meet this need (Wang & Davidson, 2017), for improving the complexity and low-effective of the approval process, and provide viable and effectual solutions for a large backlog of pending applications for drug approval (Zhou et al., 2017).

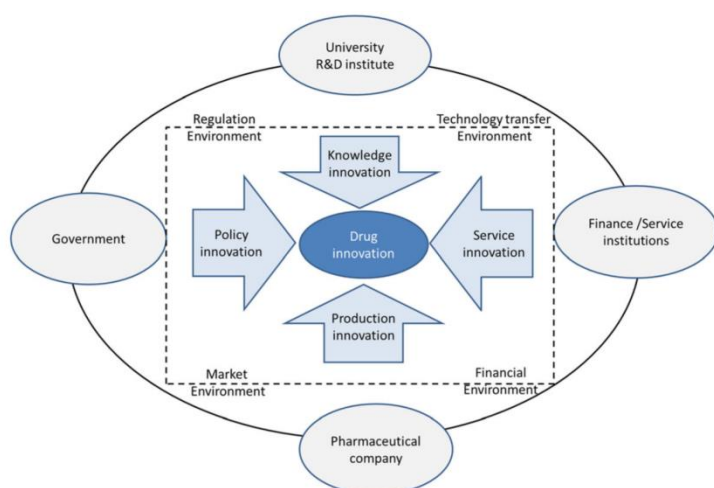


Figure 5.3: Pharmaceutical innovation system (Ni et al., 2017)

Government have formulated and enacted a series of national policies to encourage domestic pharmaceutical R&D and innovations. However, the regulatory mechanism in the Chinese pharmaceutical sector is still immature and inadequate, which impede medicine R&D development. Most of Chinese domestic pharmaceutical companies prefer to focus on competing on price rather than quality and innovation of products (Sun et al., 2008). Breaking the old unreasonable incentive mechanism, restructuring a fair and reasonable pharmaceutical system is a long and arduous task. Effective government intervention is a powerful guarantee to promote pharmaceutical R&D, and enhance CSR performance for creating social value and benefiting mankind.

5.8 Summary

The chapter explored the outstanding CSR issues/concerns faced by pharmaceutical companies in China, and discussed the root causes of these CSR issues based on CCG model from three-dimensions: consumers/customers, companies/organizations and governments/authorities. It hoped to pave the way to alleviate or mitigate CSR issues, and find out the moving direction forward to enhance CSR performance of pharmaceutical companies in China. This chapter elaborately discussion the seven prominent CSR issues as follows, to explore the CSR perception and implementation in Chinese pharmaceutical industry.

Quality of medicines is to achieve the desired results for the safety and efficacy of drug products. In China, it is popular perception that imported drugs are better than domestically manufactured ones. The generics made by domestic manufacturers in China sometimes not precisely copy their original drugs, because of the backward technical level, outdated manufacture equipment and weak technology capability. "Made in China" is the label associated with the cheap and poor quality of product characteristics. Some shortsighted companies tend to cut cost and make profits for immediate return, resulted in some inferior drugs entering the pharmaceutical market threaten healthy of consumers.

Pharmaceutical manufacturers usually are considered heavy environmental polluters with large pollution emissions, which should increase investment to updated energy-saving manufacturing facility to promote production efficiency and improve resource utilization rate, and introduce innovative waste disposal technology to elevate the level of pollution prevention and control, reduce the manufacturing effluent discharge and emission, curb the adverse impacts on surrounding environment. Government needs to formulate more effective legislation and regulation to protect environment. Supervision and governance in pharmaceutical manufacturing process need to be in place to minimize the negative influences to the natural environment.

The asymmetry information of pharmaceutical products made companies have more powerful to influence on the costumers' purchase decisions through advertising and promotion. Pharmaceutical sales representatives bribe doctors using commissions and kickbacks to increase in sales of prescription medicines; OTC advertising tend to exaggerate curative effects, hidden side effects which used as marketing and sales tool. Due to the slack regulation and light punishment and sanction, the cost of illegal advertisement is light in China compared with the high profit return. It is necessary to strengthen supervision and law enforcement and justice system, elevate punishment standards to curb false medicine advertisement and illegal promotion.

Bribery becomes a "hidden rule". Rebates, kickback and commissions are common latent rules in Chinese pharmaceutical industry. Bribery resulted in the vicious circle, and blind and unordered market competition with "the high pricing, the big kickback" marketing mode, which threaten of healthcare system security and stability. Patients suffered both physical and economic losses; companies lose reputation and faced huge fines and legal penalties. There is urgent to build a well-functioning healthcare and medical system, build reasonable incentive mechanisms for hospital, along with rigorous standards, and stringent regulation and legislation to crackdown bribery.

Medicines are a crucial component of healthcare. Guaranteeing access to medicines is inevitably accountability assigned to pharmaceutical corporations, consideration of health as a fundamental human right for everyone in the world. A large proportion of drug prices are taken away by intermediaries and gray areas in China, which led to high pricing, and made it more difficult for patients to obtain affordable drugs. High pricing impedes the access to medicines, sometimes, even to life-saving medicines. China's national health insurance have the characteristics with wide coverage, low level, which resulted in out-of-pocket expenditures of patients still account for a large proportion of healthcare spending. Because of the healthcare costs rising, and rural-urban inequalities in supply of medicines and healthcare services, some of essential medical treatment still out of reach for many people lived in remote rural areas.

The waste of medical resources and the inappropriate utilization of medicines not only negatively influence on public health, but also have potentially brought adverse consequences for the natural environment and ecological system. Overprescribing and overusing of medicines in China is prominent, especially in abuse of antibiotics resulting in drug resistance. Moreover, inappropriately discard of expired drugs are an alarming CSR issue nowadays. Pharmaceutical companies have indispensable responsibility to give the instruction and guidance for discarding and recycling family outdated drugs correctly and safely. Inappropriately disposal of expired medicines caused waste of medicinal resources with negative impacts on ecosystem.

R&D innovative medicines mean to provide better groundbreaking pharmaceuticals for medical treatment to relieve suffering and alleviate pain of patients, not only just selling products in a profitable and lucrative way. Pharmaceutical R&D is high-risk activities characterized by long duration, large investments, and low success ratios. Most of domestic pharmaceutical companies are small and middle-scale enterprises (SMEs) in China, with shortage of financial support, insufficient technology and weak ability of undertaking risks. High fragmentation of industrial structure with dispersed resources resulted in without sufficiently support of manpower, material and financial resources for R&D medicines. Many domestic pharmaceutical companies engage in low-value-added imitation for generic medicines rather than R&D innovation activities. Government should formulate feasible incentive policies for stimulating and boosting R&D for cutting-edge drugs to treat the currently incurable untreatable and neglected diseases, to narrow gaps between China and developed countries about the medical science and R&D technology.

the next chapter is the conclusion of the thesis with summaries about the research findings and results to answer the two research questions for achieve the research outcomes; along with the theoretical and practical contributions of this thesis, as well as the limitations of the study and suggestions for possible future further research.

6 Conclusion

In this final chapter, the conclusion presented in order to answer the two research questions of this study. In addition to that, the theoretical and practical implications of this study presented, together with limitations and suggestions for future research.

6.1 Address the research questions

The responses/answers to the two research questions that developed at the chapter 1 of this thesis concluded as follows.

6.1.1 The CSR issues faced by pharmaceutical companies in China

The first research question addressed: **(1) what are the CSR issues faced by pharmaceutical companies in China?**

- **Manufacturing quality and distribution of medicines**

Some domestically manufactured generic drugs fall short in China, which do not achieve the same treatment effect as their branded equivalents. Besides, medicine distribution and logistics processes affect the final quality and efficacy of medicines for delivery to customers, which urgently need to supervise and improve in China. Improving the quality of medicines in the pharmaceutical industry not only is doing good things for the public, but also enhances corporate reputation and the long-term profitability of pharmaceutical companies. Product quality is the basis as core competitiveness for the survival and development of pharmaceutical enterprises.

- **R&D innovation products and patented licensing**

New drug R&D is not only for the economic benefit aimed at lucrative producing wealth and profit as much as possible, more important, it should address/take the social burden of treating disease by offering new treatment and therapy method for previously incurable diseases, to relieve pain and alleviate suffering for patients. The innovative technology of pharmaceutical industry still is in a backward state in China. Most of domestic pharmaceutical companies are small and medium-sized enterprises with a scattered geographical layout and lack of manpower, material and financial resources to take R&D risks. There is a huge shortage of research and development of innovative medicines in China that urgently need to improve.

- **Environmental protection**

Environmental contamination problems caused by pharmaceutical manufacturers have been increasingly aggravated recently, resulting in significant amounts of contaminants and pollutants entering the environment in the form of wastewater, exhaust gas and waste residue. Pharmaceuticals should avoid bringing negative impact on natural environment; and the efficient and effective use of all kinds of environmental resources and energy, especially about using scarce resources. Pharmaceutical enterprises should increase investment to introduce and choose more environment-friendly manufacture equipment and enhance manufacturing technology, to reduce pollution discharges, curb adverse impacts on surrounding.

- **Inappropriate advertising propaganda and promotion of medicines**

Improper pharmaceutical advertisement with exaggeration about curative efficacy, conceal the real information about side effects and adverse reactions, applying undue influence to mislead customers for their sales. Asymmetric information makes companies have more power to affect the costumers' purchase decision for sales /marketing promotion. It seriously damages the social justice and honesty system and affects the normal market order of fair competition. Moreover, doctors have the right to select what kind of prescription medication for patients, who play the key role for drug promotion. In China, most of the doctors underpaid in public hospitals, sometimes they are more likely to under the temptation by bribery. This kind of behavior is dangerous and harmful to the health of patients.

- **Commercial bribery and corruption**

Commercial bribery prevention is the one of the most core tasks of engage in CSR practices of pharmaceutical industry. Pharmaceutical industry affects the general public health and living quality of human beings. Corruption scandals have severe negative impacts on a corporate brand image and reputation along with enormous economic loss, reducing market share, fines, and penalties. Furthermore, it can damage both economic and healthy interests of patients, undermine the quality of healthcare services, leading to unnecessary prescription and excessive treatment, and increase financial burden of patients.

- **Pricing and accessibility of medicines**

Medicines are a crucial component of healthcare system, considered health as a human right for everyone in the world. Guaranteeing basic access to medicines is inevitably partly accountability assigned to pharmaceutical corporations. However, the oligopolistic features of the pharmaceutical industry provide leading companies huge power to influence customers, to set extremely high prices for their patented medicines. The existing contradiction about the access to medicines is focusing on health-driven for public expectation or market-driven for corporate financial benefit. Oligopolistic market structure resulted in inaccessible and unaffordable life-saving medicines, especially to the people amongst disadvantaged and vulnerable groups.

- **The waste of medical resources/ the appropriate use of medicines**

The ongoing rise in over-prescribing and over-treatment, and misuse of medicines will be exacerbated further in the coming years, if without significant intervention. The inappropriate uses of medicines lead to the waste of medical resources, which not only influence on individual and public health, but also bring serious negative consequence for the natural environment and ecological system. Overprescribing and overuse of OTC medicines in China is prominent, especially in the overuse of antibiotics resulting in drug resistance. Furthermore, the inappropriately discard of expired drugs are an alarming CSR issue nowadays. Pharmaceutical companies have responsibility to give necessary instruction and guidance for the disposal and recycle of family disused and outdated medicines correctly and safely.

6.1.2 The causes of CSR issues in Chinese pharmaceutical industry

The second research question addressed: **(2) what are the causes of these CSR issues in the Chinese pharmaceutical industry?**

Understanding and analyzing the cause of CSR issues based on CCG model helps companies to build the reciprocal relationship with their core stakeholders to improve the CSR performance, and achieve corporate long-term survival and development, establish competitive advantage in the fierce pharmaceutical marketing competition. Moreover, Pharmaceutical industry is a swiftly growing in China, which usually have been suffered more serious criticism and blame because of CSR violations. It seems necessary to ascertain the root causes of the CSR issues involved in pharmaceutical industry to enhance CSR practices and performances.

- **The causes of CSR issues related to quality and safety of medicines**

From companies: The majority of generic medicines made by Chinese domestic pharmaceutical manufacturers do not in conformity with international standards, resulting in poor pharmaceutical efficacy and lack of market competitiveness.

From consumers: Consumers/patients should enhance consciousness of safe and rational use medicines for ensuring the therapeutic effects; and fully aware of the serious harms that inferior and substandard medicines bring to human beings; and anytime take medicines strictly according to the doctors' prescription; foster discernment for exaggerated advertisement and to stay alert for false commercial promotions that deceive and mislead customers, and so on.

From government: Chinese government has formulated various regulations and legislation to improve the quality of medical products. However, due to various barriers and obstacles, such as late start, and slack law enforcement of regulation and legislation, light punishment, there are still some low-quality and substandard medicines products spread in the pharmaceutical market, which need more effort and improvement for assuring the quality and safety of medicines in the Chinese pharmaceutical industry.

- **The causes of CSR issues related to advertising and promotion of medicines**

From companies: The asymmetric information of pharmaceutical products makes medicinal providers have more powerful to affect the costumers' purchase choice and decision. Some pharmaceutical companies benefit from these imbalances, to influence on the price setting and increase the market demand of medicines for their advantage. Additionally, nowadays, some pharmaceutical companies focused on economic benefits in China with short-sighted and took a very short-term view, to pursuit immediate results of economic returns, which resulted in unethical and illegal advertisement and promotion of pharmaceutical products.

From consumers: The medical sales representatives hiring by pharmaceutical companies bribe doctors using sales commissions, kickbacks, or gifts to promote prescription in hospitals to bring in sales. Over-prescription drugs /overuse drugs damage the economic and healthy interests of patients. OTC advertising focused on some certain medicines especially including chronic conditions, health care products and traditional Chinese medicine products, which tend to exaggerate the curative effects, hidden side effects and adverse reactions, used as marketing and sales tool with purpose of business promotion.

From government: Inadequate slack and loose regulation, light punishment and sanction are main reasons for illegal promotion of medicines. Compared with the high profits return, the cost of illegal advertisement is slim in China in some extent. It is necessary to strengthen/raise supervision, implement stricter law enforcement and justice system, enhance elevate punishment standards to curb deceptive and false medicine advertisement and illegal promotion in pharmaceutical industry.

- **The causes of CSR issues related to commercial bribery and corruption**

From companies: Cultural aspect is considered as a critical influence on bribery and corruption in China. The nature of Chinese traditional culture deeply is related back to the Confucian philosophy, social hierarchy, along with Guanxi established. Abusing and misuse of Guanxi becomes a hotbed of bribery and corruption, due to multifaceted and complex nature of bribery, along with the grey areas in Chinese pharmaceutical and healthcare industry, which makes corruption extremely difficult to detect, track down and crackdown in China. It is necessary for pharmaceutical companies to enhance CSR awareness and strengthen self-management and self-discipline to curb commercial bribery and corruption.

From consumers: When corruption and bribery intrude healthcare system, it can bring devastating negative influences, which resulted in over-examination, over-medication and over-treatment. It leads to the high-priced medicines for patients, accordingly bring significant increase in healthcare cost and the financial burden, sacrifice the quality of healthcare public services, and undermine the relationship between doctors and patients, jeopardize the life and health of patients.

From government: In fact, unspoken commercial bribery persistently existed and spread in China. Although the existing national anti-corruption countermeasures have exerted certain effects, it is not enough effective and efficient to achieve an ideal and fair pharmaceutical market. The financial incentives mechanism and performance evaluation system for hospitals should be reconstructed. It is urgent to strengthen anti-bribery surveillance, tighten enforcement of Relevant laws and regulations, and make punishing measures in place to alleviate unfair competition and commercial bribery and corruption in the Chinese pharmaceutical industry.

- **The causes of CSR issues related to environmental pollution**

From companies: At present, some pharmaceutical enterprises are difficult to meet the environmental protection standards because they are mainly small and medium-sized enterprises, scattered geographical layout, insufficient funds and weak technical force. There is lack of advanced equipment, adequate financial support and qualified technical talent resources for effective disposal and recycle these waste emission and discharge from pharmaceutical factories.

From consumers: Consumers and patients are the main sources of medicinal residues into the environment, notably through human excretions and incorrect discard of expired and disused medicines, pharmaceutical active ingredients can indirectly enter ecological environment. Therefore, ensure appropriately disposal of medical leftover and rationally discard of expired medicines are key protective measures and prevention strategies for reducing pharmaceutical waste emission and less environmental contamination.

From government: pharmaceutical industry needs to strengthen consciousness and improve the capability and efficiency in dealing with environmental pollution. Punishment is not in place with inadequate loose and slack law enforcement; the cost of violating breaching environmental laws is light and slim. As a result, some pharmaceutical manufacturers prefer to face to be punished rather than to invest money to update production equipment and manufacturing facility, for improving resource utilization rate, enhance waste discharge and treatment, and achieving the environmentally friendly pharmaceutical manufacturing.

- **The causes of CSR issues related to the access to medicines**

From companies: the current pharmaceutical system faced the basic tension of contradiction between medicine exclusivity of patented products for making profits and the requirement of the wider access to medicines for the benefit and interest of public health. There is always such a contradictory issue between focusing on putting profits first for companies and putting public health first for customers. On the one hand, the need of provide wider access to medicine at fair and affordable prices for the sake of public health; on the other hand, corporate development of patented products to monopolize the pharmaceutical market with high prices to make huge returns in a for-profit business purpose.

From consumers: Doctors have the right to decide what kind of drugs to use for treat the diseases. It makes them become the main target of commercial bribery in pharmaceutical industry. The distorted pricing pattern and incentive mechanism in public hospital provide inducements for doctors to overprescribe on medicines and tests, which become a significant cost driver in healthcare systems, consequently aggravate the economic burden to patients.

From government: There exists a relatively dysfunction regulatory regime in the Chinese pharmaceutical industry. Immature governance structure and supervisory system, distorted incentive mechanism in public hospitals make doctors become

profit-minded on taking kickbacks from selling prescription drugs, for compensation of the financial shortfall. It is essential to reform the medical and healthcare system to remove improper profit incentives for doctors to curb over-prescription and over-treatment; and strengthen medical professional ethics, etc. it is necessary to put all these on right track for protecting patients' benefits and controlling healthcare cost inflation, to enhance the access to medicines and medical services.

- **The causes of CSR issues related to R&D innovation and patented products**

From companies: the characteristics of the Chinese pharmaceutical industry is known famous for its mass-production of low-level generic drugs for a long time; meanwhile, China as a 'world factory' of active pharmaceutical ingredients (APIs) with little involved in real innovative medicines. Drug R&D capabilities in China is in a backward state, seriously lag behind the developed countries, due to shortage of financial resources, lack of innovative technology and high-tech talents. Most of domestic pharmaceutical companies are small and medium sized, with scattered geographical layout, outdated manufacturing facilities and backward innovative capacity, which mainly focuses on generic drugs with the duplicated production process, resulted in weak trading competitiveness and relatively low market share.

From consumers: the rapid development of economy, people's income and living standards have greatly improved in China. Many Chinese started cultivating and enhancing healthcare awareness with increasing standards and demands to seek for better medicines and healthcare services. People pay more and more attention to their health conditions, and willing to pay more money for their health. Over the past decades, with the acceleration of population aging and the change of lifestyle, the incidence of chronic diseases has increased significantly in China, which has raised people's expectation for innovative medicines and cutting-edge treatment.

From government: Chinese government have formulated and issued a series of national regulatory policies to reform medical and healthcare system to encourage domestic pharmaceutical R&D and innovations. However, this industrial structure is still with inadequate regulation and defective legislation in China, which hinders R&D development, incur some pharmaceutical companies to focus on competing on price rather than quality and innovation of medicine products. Restructuring a fair pharmaceutical market and healthcare system is a long and arduous task.

- **The causes of CSR issues related to the waste of medical resources**

From companies: Medicine products are incredibly specialized with complicated characteristics. It determines people's quality of life and health level, and enhances health conditions. Pharmaceutical companies have responsibilities to provide right guidance and instruction for rational and proper utilization of medicines, improving drug quality and efficacy, set fair and equitable pricing model, accurate and truthful OTC advertising, reasonable promotion for prescription medicines, and suppress commercial bribery and corruption, for reducing the waste of medical resources.

From consumers: The main causes related to waste of medical resources from consumers are two points. One is irrational use of medicines that can endanger /impair health due to adverse drug reactions, even delay treatment and damaging of vital organs, especially over dose of antibiotics leading to drug resistant and super bacteria. The other one is improper discard of disused drugs as an alarming issue nowadays, which rapidly gaining more and more attention. Correctly disposal of medicines is equally important as rational utilization of medicines. Expired and disused medicines are disposed or discarded inappropriately, which could cause significant increasing waste of medicine resources, and negative influences on ecological system.

From government: There is need to formulate effective and feasible policies and regulations to achieve a cost-effective and resource-efficient healthcare system, to improve pharmaceutical marketing practices with CSR ethical and legal standards for the interest of public health. Separation of Dispensing from Prescription (SDP) needs further implementation in public hospitals, to cut off the interest chain linking with benefit connection between doctor diagnosis and drug sales, for substantially reducing the price and dose of prescribing medicines, curbing commercial bribery and corruption, in order to reduce the waste of medical resources.

6.2 Theoretical/academic implications of this study

The academic contribution of this study to literature in CSR field is to provide more explicitly mapping the previously under-researched perception and implementation of CSR in Chinese pharmaceutical industry based on the CCG model. The far-reaching theoretical implication of this thesis is CCG model that offers an analysis mode to in-depth understand and undertake CSR. CCG explanatory framework is considered to be originality, and proposed as a practical pattern for analyzing and exploring CSR, and navigate CSR in the complicated pharmaceutical industry with the consideration of stakeholder management.

(1) The existing literature on CSR exploration for Chinese pharmaceutical industry is especially scant; there is little study about CSR in the context of the pharmaceutical industry within emerging economies under Chinese business context. Therefore, this study makes an important contribution to the CSR literature about study the complex, controversial CSR of pharmaceutical industry in Chinese business context to fill the gap.

(2) This study developed the CCG model as a lens to interpret and analyze CSR. The new CCG model is considered a practical and feasible tool to evaluate CSR practices, for stimulating and arousing pharmaceutical companies operating in China to integrate CSR into their business strategies, and paving the way to mitigate the main CSR issues effectively. The CCG model built in this thesis is a new analytical framework to discuss and explore CSR from three aspects, namely Companies/ organizations, Customers/ consumers, Governmental /authoritative Institutions.

(3) The CCG framework proposed as a tool to assist strategically analysis and deep understanding of CSR, which not only suitable and applicable in the pharmaceutical industry to analysis CSR; but also have widespread applicability and broad suitability to analyze CSR in other different industries. It is hoped to develop more deeply and further CSR research based on CCG model for other areas, continue to improve and promote this CCG model that can be widespread application for almost all fields in various different business environments.

(4) The research portrayed CSR status quo faced by pharmaceutical companies in China, discussed the CSR implementation and improvement from the seven main CSR aspects. It provided a road map to navigate CSR in the complicated Chinese business labyrinth with the consideration of stakeholder engagement. Especially about the CSR concerns/issues are seen as important that has been neglected or have not received enough attention, with taking into account of the political, culture, technical and economic context in China to enhance CSR performance.

Overall, from the theoretical perspective, this study analyzed and discussed the long-debated, outstanding CSR issues from seven aspects in the Chinese pharmaceutical industry based on the CCG model, which contributes to academic circles about CSR exploration in a context of Chinese pharmaceutical industry. Furthermore, the CCG model generated from this thesis consisted of the three dimensions from consumers, companies, government, which represents the direction of CSR practices forward to satisfy the three mutually restrictive aspects in reciprocity way, and make meaningful progress in develop CSR perception and implementation in Chinese pharmaceutical industry.

Additionally, the thesis makes a contribution to CSR exploration and development in the Chinese pharmaceutical industry based on the original CCG analytical pattern. This study intends to present CCG model in plain English, without fuss or affectation, no flowery language, easy to understand, extended and used to most people. It is not like those obscure academic terms usually unintelligible to those who are outside the specialty. It is not arcane terminology hides behind lots of unfathomable jargons out of touch with reality and masses. CCG model is as a practical and feasible tool applied by business organizations to analyze their CSR performance on all counts. It designed as a lens to analyze CSR with universal applicability in different contexts. It emphasizes the integration and interrelationship of the three parts with holistically consideration. The three dimensions interact with each other, working in a cohesive and coordinated way, which are equal and interdependent relationship, aimed at maximizing synergies and minimizing trade-offs for the three pillars to improve CSR.

6.3 Practical/managerial implications of this study

Turning to the practical implications, this thesis is to shed some fresh light on CSR current real situation of pharmaceutical industry in China. Through critically analyze the outstanding CSR issues arisen from the pharmaceutical industry in the Chinese business context, and probe the root causes of these CSR issues, hope to pave the way of moving forward to improve CSR in the Chinese pharmaceutical industry.

On the one hand, China is in the early stage of CSR implementation, still have not formed specific mature CSR guidelines, without full recognition and attach enough importance to CSR, especially in pharmaceutical industry. Meanwhile, China's rapid economic development has resulted in a large number of CSR issues, which have become the great obstacles of corporate development and undermine social justice and security. The practical contribution of this thesis is addressing CSR status quo faced by pharmaceutical companies in China. Elaborated a profound understanding and furnished new insights into the CSR problems, highlighted these salient CSR issues from seven main aspects that deserve to attach great attention and urgent improvement in pharmaceutical industry, in order to find out the moving direction for developing and advancing CSR in the Chinese pharmaceutical industry.

On the other hand, there are a number of challenges of pharmaceutical companies operating in the Chinese business surrounding. This research elaborately probes the underlying and root causes of the seven CSR issues under Chinese characteristics business environment where have different economic developing trajectory, political regime, policy mechanism and legal system, unique cultural tradition, social ideology, insufficient technological level and inadequate innovation capability, and complicated history background, in contrast to their counterparts in western countries. These all are important influences that cannot be ignored in the understanding and analyzing of CSR practices and performance in Chinese pharmaceutical industry.

This research provided a comprehensive landscape with profound insights of CSR status quo in Chinese pharmaceutical industry. For senior managers and executives of pharmaceutical companies can better understand CSR issues and improve CSR performance and enhance corporate competitiveness. For government officials and policy makers in government or authoritative regulatory agencies have adequate and comprehensive insight of CSR necessity and urgency, and use laws and regulations to improve CSR. For doctors and physician in hospitals are deeply and clearly aware of their own roles and impacts for healthcare system. For R&D researchers working in research institutions can fully recognize the key position of R&D innovate activities in pharmaceutical industry. For business partners, medicine logistic companies and CRO organizations (Contract Research Organizations) can build close cooperation relationships with pharmaceutical companies to achieve value-added process during corporate operation. For pharmaceutical sales representatives are also fully awake to embrace CSR to comply with professional ethics and business rules, to establish a healthier and fairer competitive environment in the Chinese pharmaceutical market.

6.4 Limitation of this study

Research Limitations is inevitable and unavoidable. Despite all the efforts done to minimize the limitation of the research, the shortcomings still exist in some extent and cannot ignore. The limitations of this study included the following five aspects:

- (1) This study only uses a two-year period between 12/2017 and 12/2019. Time and economic constraints limit the extent and width of research and the sample size of respondents. Additionally, only six pharmaceutical companies are chosen for the sampling in this research, maybe it is limited to represent the whole industry more or less. The number of respondents is only 18 come from the six chosen pharmaceutical companies, which indicated a limited sample size.
- (2) Primary data collected come from the interviewees who actually are only from top and middle managers or executives of the six chosen pharmaceutical companies. As a result, maybe bias cannot be completely avoided, as the investigation data maybe mainly represented the perspective of management and leadership.
- (3) Another concern is that some surveyed respondents are not willing to talk about the negative CSR information, or may provide biased input by responding to the questions, due to the social desirability bias when answering sensitive questions (Ross & Zaidi, 2019). Even if the research was 100 percent anonymous, some respondents might choose to avoid answering some questions or conceal some of real information, which maybe more or less compromise the neutrality of the investigation.
- (4) Since these chosen respondents are come from different departments who were in charge of only one area of their companies' management, they might not be familiar with the CSR practices and activities of other departments of corporation. For instance, an HR manager might not know what measures and strategies the company had taken to guarantee product quality and safety, or what efforts the company had made to protect the environment and contribution to community. Nevertheless, some respondents consulted their colleagues who are working for other concerned or related departments, to collect the relevant information, and provide the feedback and supplementary answers for these questions during the following-up interviews. Their carefulness and full active co-operation helped to ensure the accuracy and objectivity of collected data and information.
- (5) The main stakeholders were included and discussed in the thesis to gather data for exploring CSR of pharmaceutical industry in China. However, the interviewees for this study are only from leadership in pharmaceutical companies. Some other stakeholders still not involved in interviews, such as, government officials, NGOs (non-governmental organization), doctors and patients, private medical insurance institutions, and so on, which may also directly or indirectly affect or be affected by CSR practices of pharmaceutical companies. Enlarge and expand the scale of respondents, involve more stakeholders to participate in investigation for further research to get wide-ranging data, which could probably make CSR study more all-inclusive in a real-world situation for pharmaceutical industry.

6.5 Suggestions for further research

Suggestions for further research of CSR studies in Chinese pharmaceutical industry presented as follows:

- (1) The thesis has provided comprehensive insights intended to pave the way to alleviate CSR issues and challenges in the Chinese pharmaceutical industry. However, it is necessary to make further efforts to propel more in-depth research about how to formulate and design specific CSR methods to provide practical and feasible solutions for the seven outstanding CSR issues in the future.
- (2) As far as research impartiality is concerned, future studies could be designed to involve in more respondents, such as doctors and patients, business partners, government officials; NGO (Non-Governmental Organization) or local community, which all can develop a more comprehensive and objective evaluation of CSR practices in the Chinese pharmaceutical industry.
- (3) Subsequent to this work, if third-party CSR evaluators and databases provided by authority organization, for example, CSR rankings in China become available in the near future, with concrete index system and method for CSR performance evaluation, which can be used for aiding CSR investigation, and facilitating further CSR research to achieve more neutrality and effectiveness findings and results of study.
- (4) Pharmaceutical companies have to do their part contribution in the bettering of the whole society. However, the question that comes to mind is how far they should do for CSR performance and how to determine the different extent and scope of mandatory doing CSR for different companies as bounden duties. It is necessary to build evaluation standards to benchmark what kind of CSR should be enforced as compulsory duties, meanwhile other CSR activities should be optional. Accordingly, how to establish standards to decide whether certain CSR practices are obligatory or supererogatory, which is an unsolved problem need to deeply analyze and explore, and is worthy of a further study and exploration in the next step research.
- (5) Last but definitely not least, Chinese pharmaceutical setting could be explored in further research related to CSR for sustainable development based on CCG model. Because CSR perception and implementation are constantly evolving over time, and pharmaceutical sector continue to develop never halt with emergence of new CSR issues and challenges, the similar research could be conducted again in the future to compare with this one, for finding any possible changes or differences as time goes on. CCG model also needs continuously to update and advance, looking forward to CCG model as a CSR analytical framework with widely application for CSR study in different industries under different business environments and backgrounds, which opens doors for future studies as well.

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Appendix 1: Participant Information Sheet

Dear Participant:

My name is Min Tian, I am student in University of Wales Trinity Saint David working on a Doctorate in Business Administration degree.

I would like to invite you to participate in my research project. **This research** is to investigate for exploring CSR in the Chinese pharmaceutical industry, in order to better understanding and undertaking CSR of pharmaceutical companies in China. I believe your opinions will be extremely helpful to me.

The related data of interviews will be kept strictly confidential and at **NO** time will individual information be released to the general public. This gives you a chance to express your views on the research topic by a confidential and anonymous way and still be able to make a difference. Your participation in this study is completely voluntary so you can withdraw from the investigation at any stage.

Our interview should take about 50-90 minutes to complete, but there is no time constraint. There are also no right or wrong answers. Attached to this letter is a consent form. As this is a new project, your feedback is also important to us and we would be much obliged if you could participate in the investigation. We understand that your time is at a premium but your opinions are very valuable to us.

After careful and precise analysis of the data obtained from this interview, I will be happy to provide you with a copy of the research findings at your request. this research intends to enhance the understanding and implementing CSR of pharmaceutical companies in Chinese business setting/surrounding. The collected data and information will be only stored on my personal computer/laptop with password. The results of the research will be fed back to University of Wales Trinity Saint David.

Thank you in advance for your time and participation. If any questions do arise, feel free to contact me at your convenience.

Name of researcher: Min Tian

Researcher's e-mail address: 1303859@student.uwtsd.ac.uk

Signature of the interviewee: _____ **Date:** _____

Signature of the researcher: _____ **Date:** _____

Appendix 2: Participant Consent Form

Project Title: CSR in the Chinese Pharmaceutical Industry

Name of Researcher: Min Tian

(1) I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

(2) I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

(3) I agree to my interview for this research being audio recorded. ☐

(4) I understand that any information given by me may be used in future reports, articles or presentations by the researcher. ☐

(5) I understand that my name will not appear in any reports, articles or presentations. ☐

(6) I agree to take part in the above study. ☐

(7) I understand that I may withdraw this consent at any time. A copy of this consent form has been given to me for the record. ☐

You may decline to participate in this study. You may end your participation in this study at any time. If you decide to remain anonymous, maintaining your anonymity will be a priority and every practical precaution will be taken to disguise your identity. If you prefer anonymity, there will not be any identifying information on audiotapes or transcripts of this or any interview. No-one will hear any audiotapes or see any transcripts without your prior consent. All materials generated from this or any interview will remain confidential.

Name of participant:

Signature:

Date:

Name of researcher: Min Tian

Researcher's e-mail address: 1303859@student.uwtsd.ac.uk

Appendix 3: The profiles of these selected companies in this research

In this study, because the research focuses on CSR in the Chinese pharmaceutical industry, the six representative companies have been selected. In order to achieve the purpose of this research, the respondents are all from the following selected pharmaceutical companies operating in China. These selected companies include two top-ten giant pharmaceutical MNCs (Multinational Corporations) worldwide that are foreign enterprises in China, two of top-ten pharmaceutical companies nationwide that are state-owned or state-controlled enterprises in China, and the other two of top-ten pharmaceutical nationwide that are private enterprises in China. The profiles of these pharmaceutical companies as below:

Company A founded in 1849 is a leading biopharmaceutical company worldwide with more than 90,000 employees worldwide, committed to using science and their global resources to improve health and well-being at every stage of life. The products of this company include biopharmaceuticals, small molecule drugs and vaccines, as well as many world-renowned health medicines. Annual Income of Company A in 2017 is 52.5 billion US dollars. Fifty-eight production bases in the world have operated in about 125 countries and regions. Since entry into the Chinese market in the 1980s, Company A has been committed to promoting China's economic development and improving the health of Chinese people.

Company B established in 1996 is one of the 10 top largest pharmaceutical companies in all over the world by both market capitalization and sales, **which** has around 125,000 full-time employees. The products of Company B marketed and sold in 155 countries and regions around the world. For the fiscal year 2017, Company B reported earnings of \$7.7 billion, with the annual revenue of \$50.1 billion, an increase of 1.4% over the previous fiscal cycle. Company B's business activities in China can trace back to more than 200 years ago, commitment to improve the health and quality of life of the Chinese people through innovative products and services.

Company C is one of the largest and State-owned medical and healthcare groups in China with 128,000 employees. Its core businesses include distribution, retail, scientific research and manufacture of healthcare related products. The past years witnessed Company A steady and sound development. From 2009 to 2018, the CAGR (Compound Average Growth Rate) of revenue and total assets reached 24.24% and 30.54% respectively. The revenue of 2018 amounted to nearly 400 billion Yuan. Company C plays its role in preventing diseases, safeguarding people's health, and advancing the whole industry.

Company D is a state-controlled Sino-foreign equity joint venture, which operates through at least nine subsidiaries. Its major product is antibiotics, small-molecular drug preparations, OTC and healthcare products, modern Chinese medicines, biopharmaceuticals, animal vaccines and medicine circulations. The company has now more than 20,000 employees and total assets of 18.5 billion RMB. Company D constantly improved independent R&D system and the growing research team, along with the strong brands constitute is the company's pair of wings.

Company E is one of the oldest traditional Chinese medicine companies originally founded in 1902. The Company's product portfolio consists of traditional Chinese medicines, including natural herbal medicine series; health care household and personal products, as well as raw medicinal materials, among others. The company also has a distribution operation. In 2016, Company E reported revenues of \$3.3 billion, and its market capitalization is currently \$13.7 billion. Company E is one of most well-recognized Chinese pharmaceutical enterprises in China, which has the largest scale, best brand. It enjoys many reputations like one of the national innovative pilot enterprises in China.

Company F is a leading pharmaceutical company based in China with a focus on research, development, manufacturing, and commercialization of innovative and high-quality healthcare products. Company F was established in 1970 and listed in Shanghai Stock Exchange in 2000. The company ranks top 30 worldwide by a market capitalization of about 50 billion USD, with more than 24,700 employees worldwide. Company F not only stands out as a front-runner in cancer drugs and surgical medicines, but is also a leader of anti-tumor medicine. In May 2018, Company F was listed in Forbes's top 100 world's most innovative companies.

Appendix 4: Interview questions/Questions frame for the interviews

The following questions are involved in the interview process, and each question will expand according to the reaction and interest of respondents. Respondents do not have to answer all the questions. They can have in-depth discussion on the questions that they are interested in. The focus points are not the same for every respondent, because the experiences and preferences of each interviewee are different. But the purposes are all to obtain data and information about perceiving and implementing CSR in pharmaceutical industry in China.

Respondents can talk about one or more of the following questions according to interviewee's wishes. They can start in different directions according to the respondents' responses and interests. Each respondent does not have to talk about the same topics and priorities. The semi-structured interview frame will allow the interviewees to deviate from planned questions to follow interesting or even unexpected opinions.

Questions frame is as follow, including the general questions, the main questions and ending questions. And main question has several corresponding extensional questions and extensional points, which will trigger more in-depth discussion and further excavation, according to the responses and answers of the respondents.

1 the general questions

- (1) How long have you been in this position and how would you describe your role?
- (2) In your opinion, what are CSR for you?
- (3) Which CSR problems are of greatest interest to you in pharmaceutical industry?
- (4) How does your company decide on where to focus its CSR programs?
- (5) What are the most concerned CSR issues of your company in China?
- (6) What are your company's reason/driving force/motive for engaging in CSR?

2 the main questions

- (1) What are the CSR issues faced by pharmaceutical companies in China?**
- (2) What are the causes of these CSR issues in Chinese pharmaceuticals industry?**

Extensional Question 1:

- (1) In China, what are CSR issues related to quality and safety of medicines faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding quality and safety of medicines in Chinese pharmaceuticals industry?

Extensional point: GMP (Good Manufacturing Practice), pharmaceutical production chain, quality assurance program, Manufacturing, distribution, etc.

Extensional Question 2:

- (1) In China, what are CSR issues related to advertising and promotion of medicines faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding advertising and promotion of medicines in Chinese pharmaceuticals industry?

Extensional point: medicine propaganda, pharmaceutical marketing, internet platform, curative effects, side effects, consumers' psychology, OTC, prescription medicines, promoting prescription medicines etc.

Extensional Question 3:

- (1) In China, what are CSR issues related to commercial corruption and bribery faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding commercial corruption and bribery in Chinese pharmaceuticals industry?

Extension points: Guanxi, profit-driven, doctor-patient relationship, incentive mechanism, kickback, commission, pharmaceutical sales representatives, market competition, etc.

Extensional Question 4:

- (1) In China, what are CSR issues related to environmental pollution faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding environmental pollution in Chinese pharmaceuticals industry?

Extension points: environmental awareness, laws and regulations, Active Pharmaceutical Ingredients (APIs), production equipment, waste disposal, ecologic system, etc.

Extensional Question 5:

- (1) In China, what are CSR issues related to pricing and access to medicines faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding pricing and access to medicines in Chinese pharmaceuticals industry?

Extensional point: human right to health, poor people, disadvantaged groups, overpricing drugs, monopoly, health insurance, etc.

Extensional Question 6:

- (1) In China, what are CSR issues related to waste of medical resources faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding waste of medical resources in Chinese pharmaceuticals industry?

Extension points: over-prescription, self-treatment, OTC advertisement, misuse, over-purchased OTC, abuse, etc.

Extensional Question 7:

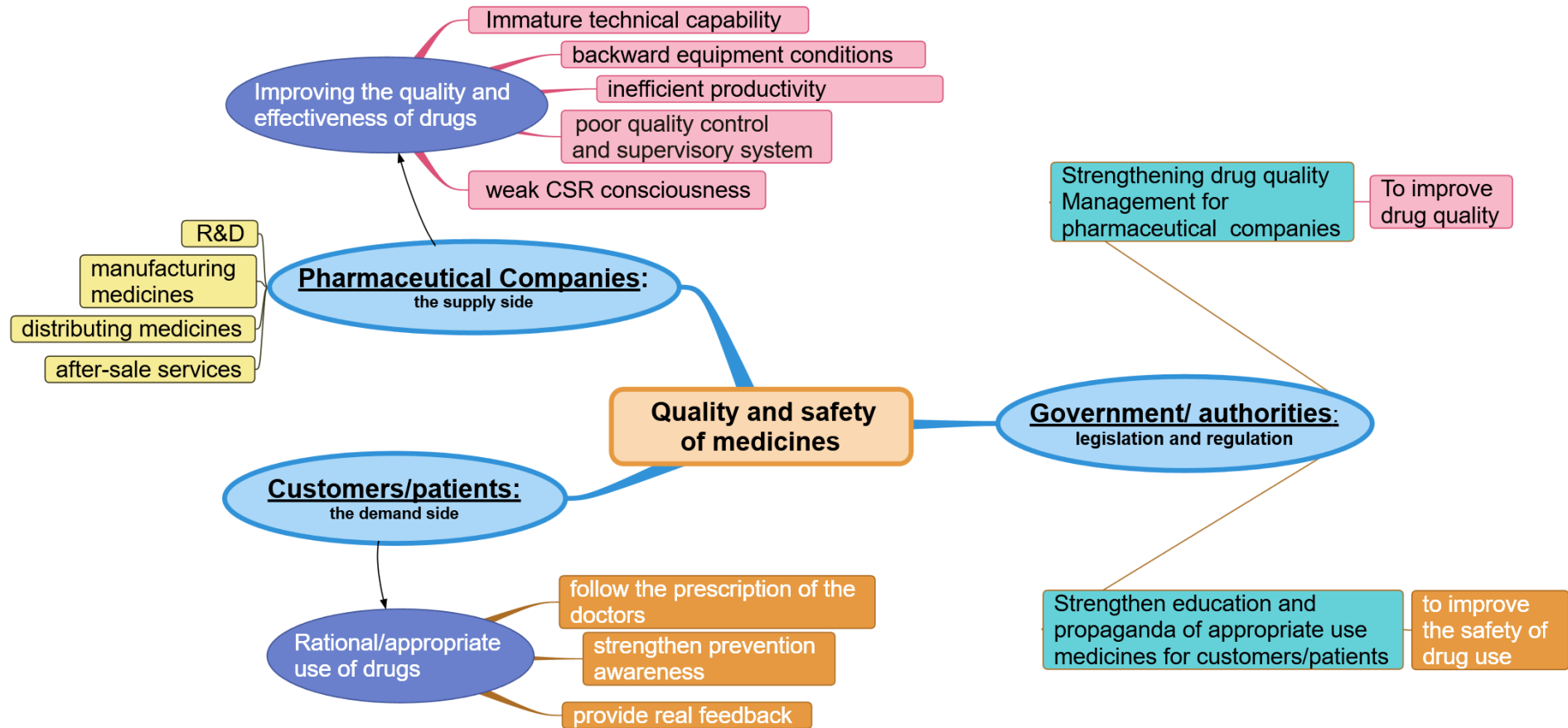
- (1) In China, what are CSR issues related to R&D and patented medicines faced by pharmaceutical companies in China?
- (2) What are the causes of the CSR issues regarding R&D and patented medicines in Chinese pharmaceuticals industry?

Extension points: innovation, patent license, technology-intensive industry, huge investment, long cycle, high risk, high return, a long-term strategy, social expectations, etc.

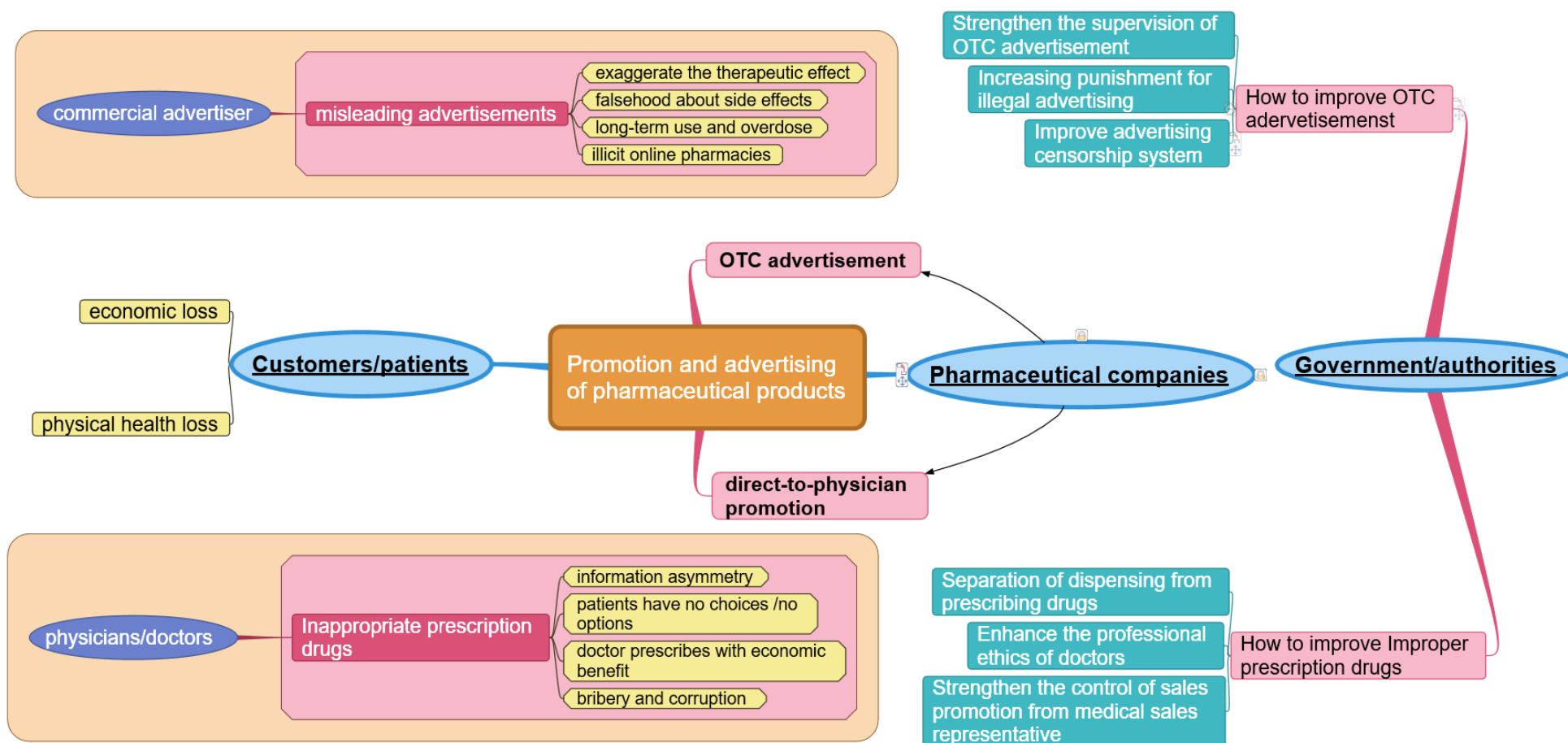
3 Ending Questions

- (1) Is there anything that you might not have thought about before that occurred to you during this interview?
- (2) Is there anything you think I should know more to understand CSR in pharmaceutical industry better?
- (3) Is there anything that you would like to ask me?

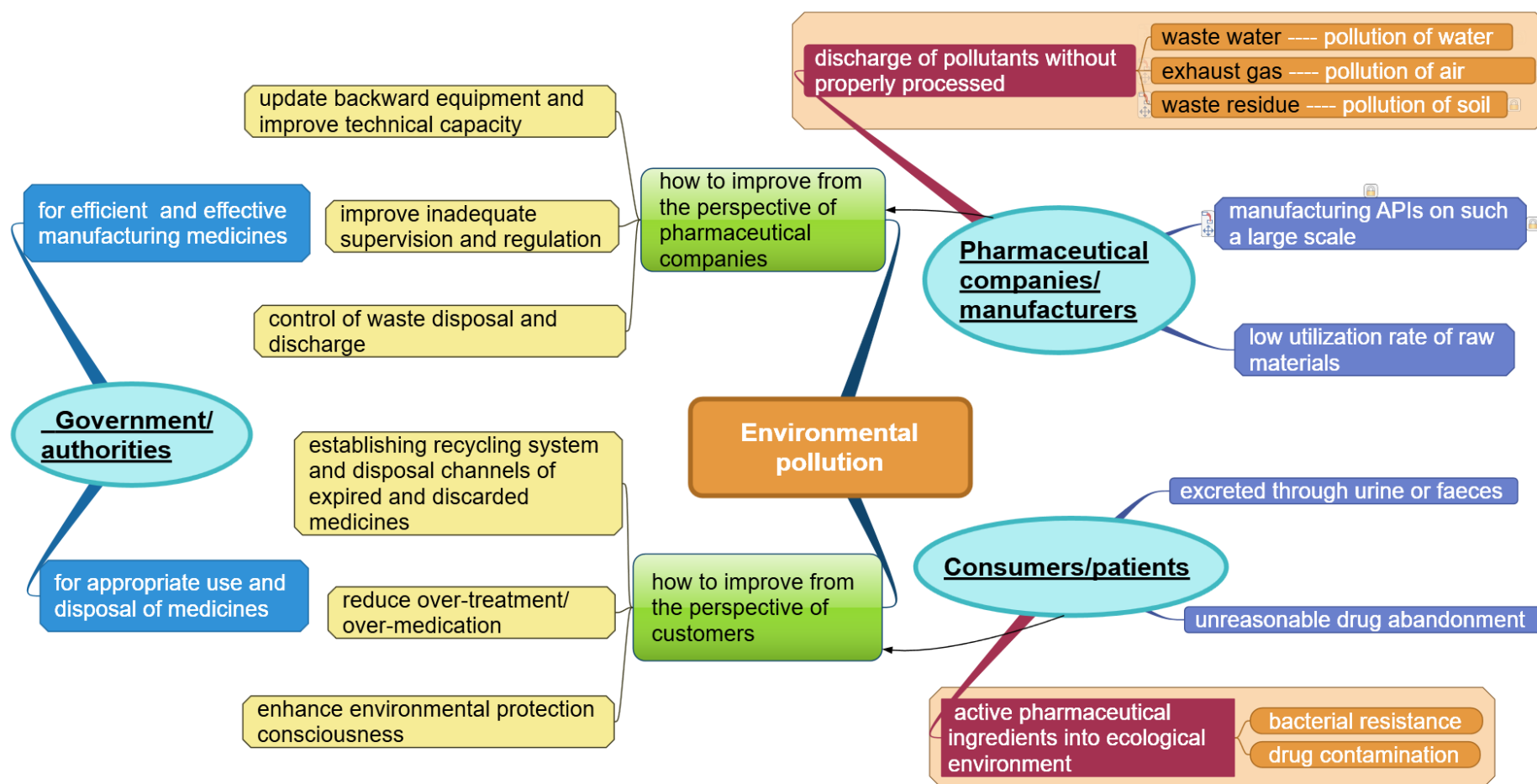
Appendix 5: CCG analysis for CSR issues regarding quality and safety of medicines (produced by the author)



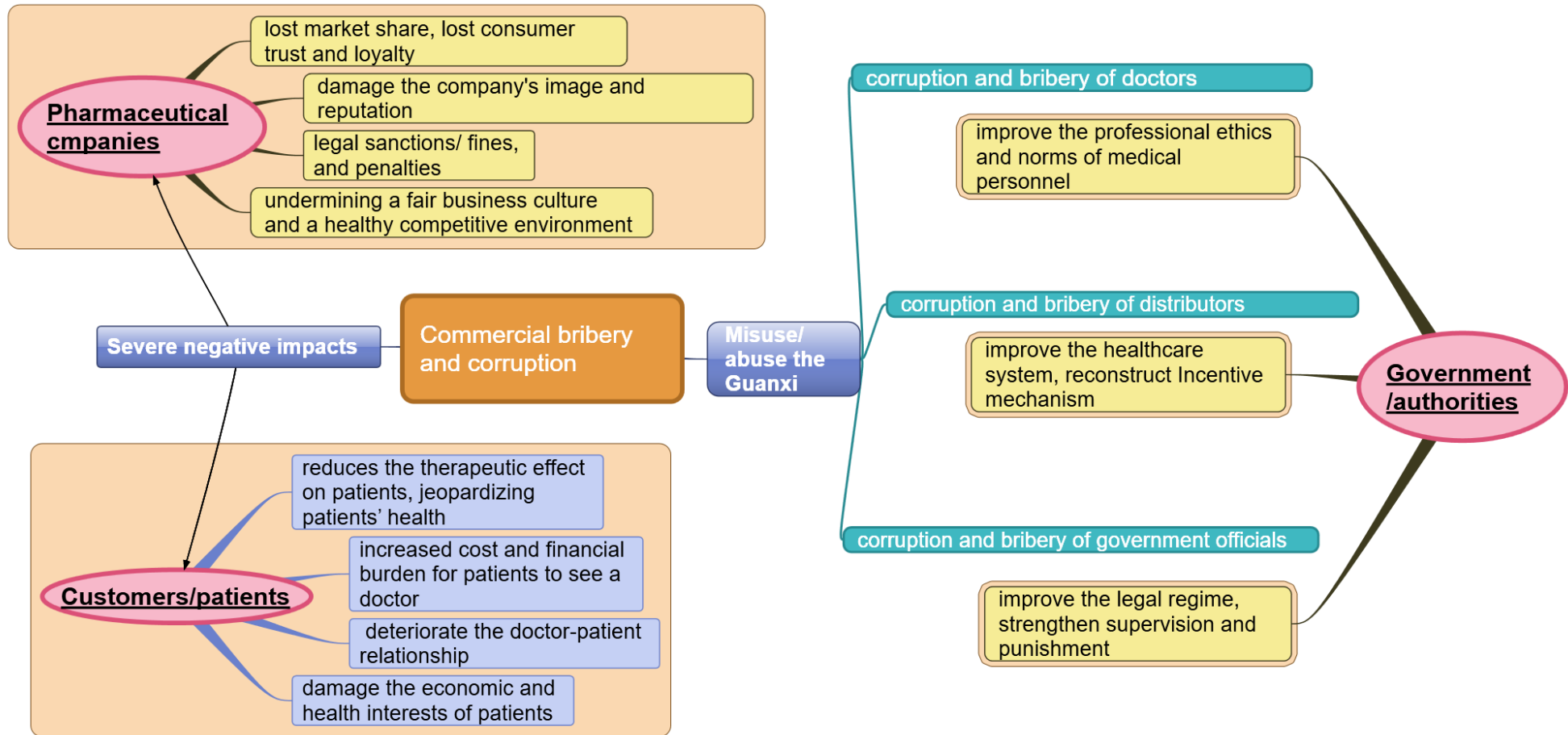
Appendix 6: CCG analysis for CSR issues regarding advertising and promotion of medicines (produced by the author)



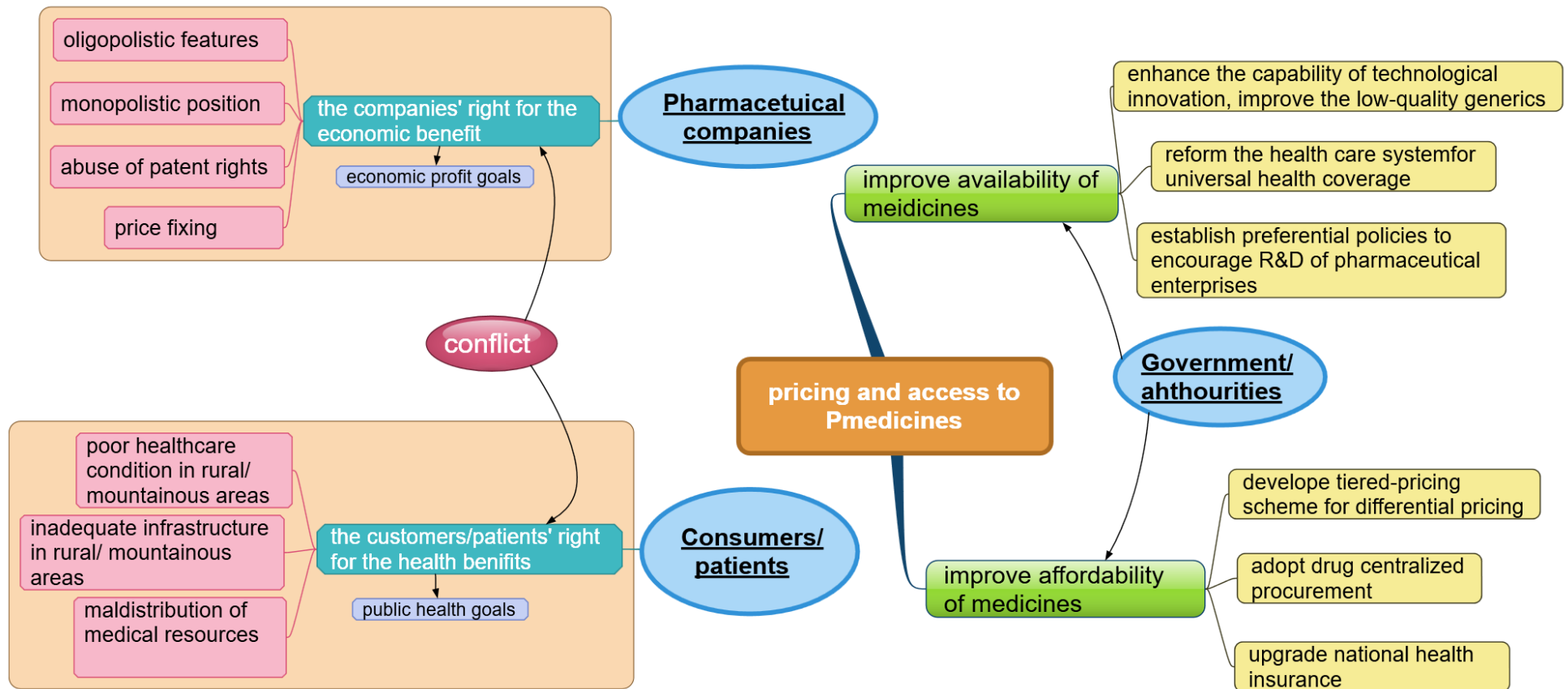
Appendix 7: CCG analysis for CSR issues regarding environmental pollution (produced by the author)



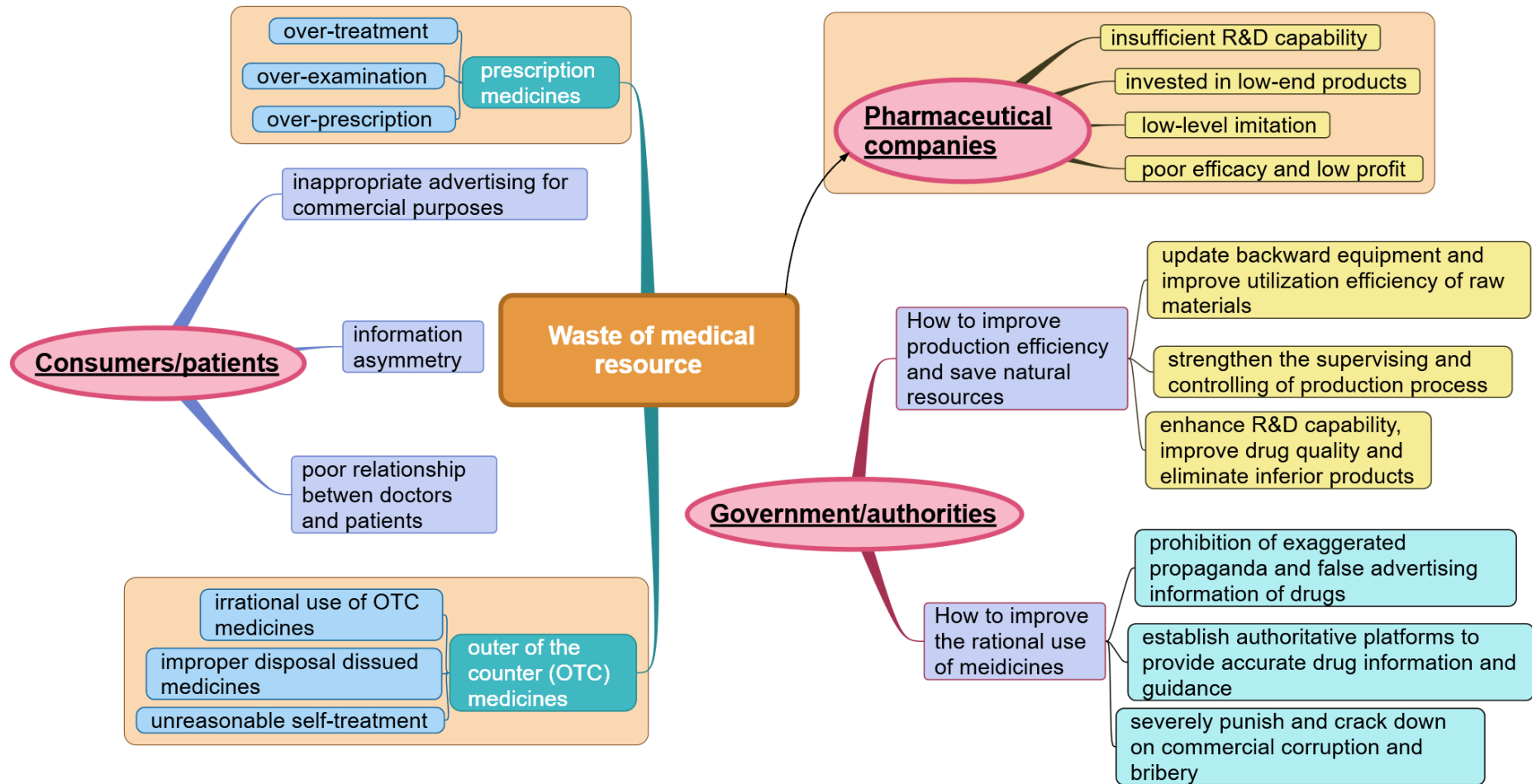
Appendix 8: CCG analysis for CSR issues regarding commercial corruption and bribery (produced by the author)



Appendix 9: CCG analysis for CSR issues regarding pricing and access to medicines (produced by the author)



Appendix 10: CCG analysis for CSR issues regarding waste of medical resources (produced by the author)



Appendix 11: CCG analysis for CSR issues regarding D&R and patented products (produced by the author)

