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Establishment of Corporate Social Responsibility Evaluation Index System of Chinese Pharmaceutical Distribution Enterprises

—Based on Grounded Theory

Lili Liu[1], Yingyu Wu[1*], Jue Gan[2]

[1]School of International Pharmaceutical Business, China Pharmaceutical University, Nanjing, China
[2]School of Foreign Languages, China Pharmaceutical University, Nanjing, China
Email: LLL304@126.com, *1020132388@cpu.edu.cn

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Abstract

Chinese pharmaceutical distribution enterprises lack scientific, reasonable, and applicable evaluation indices of corporate social responsibility (CSR). To address this gap, this study took a qualitative research approach, involving in-depth interviews with 22 experts from the pharmaceutical distribution industry and intermediary evaluation agencies, based on grounded theory. Data analysis was conducted in three levels of coding using Nvivo12 software. The research adopted inductive and deductive reasoning to construct a hierarchy model to evaluate the social responsibility of pharmaceutical distribution enterprises in China. This model is a three-level evaluation index system with 7 primary indicators such as corporate responsibility governance, 14 secondary indicators such as employment, and 62 tertiary indicators such as responsible departments. This study provides a framework to accurately assess the development of CSR in Chinese pharmaceutical distribution enterprises and can serve as a guide for CSR construction within the industry.

Keywords

Pharmaceutical Distribution Enterprises, Corporate Social Responsibility, Evaluation Structure Dimension Model, Evaluation Index, Grounded Theory

1. Introduction

The concept of corporate social responsibility (CSR) was first introduced in

the United States during the early twentieth century. According to Clark, an American economist, individuals should transition from a limited focus on economic responsibility to a more expansive sense of social responsibility that includes considerations for society, the environment, and other relevant factors (Clark, 1916). During the mid-to-late twentieth century, the CSR movement was launched in developed Western countries and has since garnered widespread recognition. The United Nations' "*Global Compact*" program, initiated in 2000, and the United Nations *Sustainable Development Goals* (SDGs), established in 2015, have significantly strengthened the link between CSR and sustainable development. CSR is a business practice that extends beyond conventional practices to meet social needs. CSR behavior is driven by various mechanisms and motivations, such as legitimacy pressures, perceived sincerity of stakeholders, and the impact of corporate ethics on consumers. Research has continuously investigated the relationship between CSR and corporate performance since the emergence of CSR. Some scholars contend that CSR implementation and promotion exert a positive influence on corporate performance (Flammer, 2015; Freeman et al., 2010). Others argue that the adoption of CSR impedes corporate performance, due to the dissipation of corporate resources and the possibility of managers pursuing their self-interest (Masulis & Reza, 2014; Brammer & Millington, 2008). While a consensus on the relationship between CSR and corporate performance remains elusive, the number of firms that have proactively undertaken CSR initiatives to address social challenges is on the rise (Wang, Tong, & Luo, 2020).

China has encountered conflicts during its swift economic development. Enterprises prioritize profit maximization, resulting in various social and environmental issues that impede the economic and social development at both the firm and national level. The implementation of CSR by Chinese companies is strongly characterized by a distinctive "Chinese character" and is closely linked to national strategies (Li, 2022). The Chinese government plays a significant role in promoting and implementing CSR among companies in China. In addition to fulfilling environmental responsibilities similar to those of Western companies (George, Schillebeeckx, & Liak, 2015), Chinese companies also assume responsibilities that align with national development goals, such as poverty alleviation and education (Chang, He, & Wang, 2021). The CSR evaluation system used by international organizations may not be suitable for evaluating CSR performance in China. Consequently, a reasonable evaluation system with "Chinese characteristics" is essential for enterprises to fulfill their social responsibility. It can comprehensively assess the efficiency and effectiveness of CSR implementation in Chinese enterprises and enables a scientific measurement and evaluation of CSR development.

The pharmaceutical distribution industry is a highly regulated and technology-intensive industrial sector that centers on the pharmaceutical business flow and is supported by logistics, information flow, and capital flow (Huang & Deng, 2019). Pharmaceutical distribution enterprises serve as a general term for phar-

maceutical trading entities, comprising both wholesale and retail enterprises. These enterprises play a crucial role in the distribution chain by purchasing pharmaceutical commodities and selling them to legal medical institutions, pharmaceutical production and trading enterprises, and consumers as well. The products they handle are vital to patient life, health, and safety. In 2016, a case was uncovered in Shandong, China, involving the unlawful sale of vaccines worth 570 million yuan (People's Daily on Line, 2016). Amid the ongoing battle against COVID-19 (novel coronavirus pneumonia) since 2020, some pharmaceutical distribution companies have stockpiled scarce medical supplies and hiked their prices. This has brought the social responsibility of drug distribution companies into the public spotlight time and again. Consequently, promoting the development of CSR in pharmaceutical distribution enterprises has become an urgent concern in order to ensure the quality, quantity, and fair pricing of pharmaceutical products to end-users. The establishment of a scientific and rational CSR evaluation index system in pharmaceutical distribution enterprises can accurately measure the development of CSR in such enterprises and offer guidance in its construction.

2. Literature Review

2.1. Research on the Evaluation Index System for Corporate Social Responsibility

According to theoretical researchers, the evaluation of CSR has been examined at both the macro and micro levels. The macro-level analysis examines the entire industry and designs CSR evaluation index systems from multiple perspectives, including stakeholder and consumer viewpoints. Additionally, these systems are constructed utilizing different methods, such as factor analysis and structural topic modeling. Meanwhile, at the micro level, researchers focus on the evaluation of a certain industry or in a given region, incorporating regional characteristics and industry features to construct the evaluation index systems. Such systems are established by combining various approaches, including stakeholder perspectives, literature review, expert research and judgment, questionnaire research, and managerial communication (see **Table 1**).

From a practical application perspective, several international and domestic Chinese third-party institutions, investment institutions, and financial institutions have developed and implemented CSR evaluation systems (see **Table 2**). Due to the different purposes and uses of these evaluations, the hierarchies vary and a certain degree of bias is exhibited towards certain enterprises. Furthermore, the index systems used in practical applications are increasingly tailored to specific regions or industries, in addition to general indicators.

2.2. Research on the Social Responsibility Evaluation Index System of Pharmaceutical Distribution Enterprises

Researches on the evaluation of social responsibility of the pharmaceutical

Table 1. Theoretical indicators for CSR evaluation.

Literature source	Evaluation object	Evaluation structure dimension
Zhao et al.(2012)	Construction industry	Employees, customers, shareholders, creditors, suppliers and partners, environmental and resource agencies, local communities, governments, competitors, non-governmental organizations
Thresh Kumar et al. (2014)	Indian fireworks industry suppliers	Human rights issues, underage employment issues, working hours issues, pollution, protection mechanisms in CSR, feminist labor issues, organizational legal responsibility, environment, community
Sarkar & Searcy (2016)	The whole industry	Economy, ethics, society, stakeholders, sustainability, voluntariness
Nassereddine & Eskandari (2017)	The whole industry	Shareholders, customers, employees, government, general public
Latif (2017)	University's social responsibility	Basic survival level responsibility, intermediate responsibility, voluntary responsibility
Tao & Leng (2018)	Mineral resource-based enterprises	Contractual stakeholders, public stakeholders
Sun, Shi, & Wang (2020)	Blockchain companies	Responsible governance, economic responsibility, anti-corruption and business ethics, security and trustworthiness, harmonious society, smart innovation, environmental responsibility
Li et al. (2021)	The whole industry	Economic performance, business ethics, environmental protection and social contribution
Kumar, Srivastava, & Woodside (2022)	The whole industry	Economy, ethics, society, stakeholders, sustainability, discretion, law

Table 2. CSR evaluation from a practical perspective.

Evaluation index system	Evaluation structure dimension
SA8000	Management systems, child labor; forced labor; health and safety; freedom of association and collective bargaining rights; discrimination; disciplinary measures; working hours; compensation
MSCI ESG ratings	Environmental, social, and governance performance
S&P Corporate Sustainability Assessment (CSA)	Governance and economy, environment, society
Thomson Reuters ESG Combined Score	Governance, environment, society, controversy
"Research Framework of "China CSR Development Index	Responsibility management, environmental responsibility, social responsibility, market responsibility
Hexun.com Professional Assessment System for Social Responsibility Reports of Listed Companies	Shareholder responsibility, employee responsibility, supplier-customer and consumer rights responsibility, environmental responsibility, social responsibility
Golden Bee Corporate Social Responsibility Assessment System	CSR strategy and governance, corporate and stakeholder relations, information disclosure, cases of responsible competitiveness

distribution industry are so limited with only a few references in the existing literature. For example, Hepler & Strand argues that pharmacies can enhance the professional maturity by assuming social responsibility (Hepler & Strand, 1990), while Amerine, L. B. contends that the dedication of pharmacy employees has an

impact on the organization as a whole (Amerine et al., 2017). Li et al. considers that knowledge dissemination about drug use, recycling, and the safe destruction of expired drugs, as well as awareness of the dangers of expired drugs in drug distribution companies should be promoted to enhance their social responsibility (Li et al., 2022). Nematollahi, & Hosseini-Motlagh assess the level of CSR performance in the drug supply chain based on the willingness of customers to return unused drugs, and the strength of that willingness (Nematollahi & Hosseini-Motlagh, 2022). Finally, Zhang asserts that the most fundamental CSR of pharmaceutical distribution enterprises is to ensure the safety and effectiveness of drug quality in their marketing activities (Zhang, 2007).

Based on the literature analysis above, it is evident that research on CSR evaluation index system has progressed from a generalized approach to a more localized and specialized level that accounts for industry-specific factors. However, when it comes to the evaluation of CSR in pharmaceutical distribution enterprises, the existing research only considers certain aspects such as quality assurance and drug knowledge popularization during the drug marketing process. The CSR characteristics specific to this industry have not been thoroughly investigated, which has resulted in the use of generic or shared evaluation systems between pharmaceutical distribution and manufacturing enterprises, ultimately leading to a lack of specificity and effectiveness. Therefore, the development of a micro-level CSR evaluation index system that reflects the unique features of the drug distribution industry is necessary.

3. Research Methodology and Design

3.1. Research Methodology

Currently, research on corporate social responsibility (CSR), including the development of general and industry-specific evaluation index systems, has achieved certain results and offers valuable insights.

However, academic research on the social responsibility of Pharmaceutical distribution enterprises is relatively limited and fragmented, with a dearth of available reference experience. Grounded theory extracts concepts from the primary data. Rather than presupposing theories and conclusions, it generates theories and explains phenomena or problems through data analysis. Therefore, it is appropriate to employ grounded theory as a research approach for investigating the CSR evaluation index system of pharmaceutical distribution enterprises. With the adoption of grounded theory, this research uses in-depth interviews as primary data, develops a theoretical system through three-level coding, and ultimately formulates the social responsibility evaluation index system. The research process of grounded theory is depicted in **Figure 1**.

3.2. Data Collection

Due to the paucity of studies pertaining to the CSR evaluation index system of pharmaceutical distribution enterprises, and the lack of available literature and

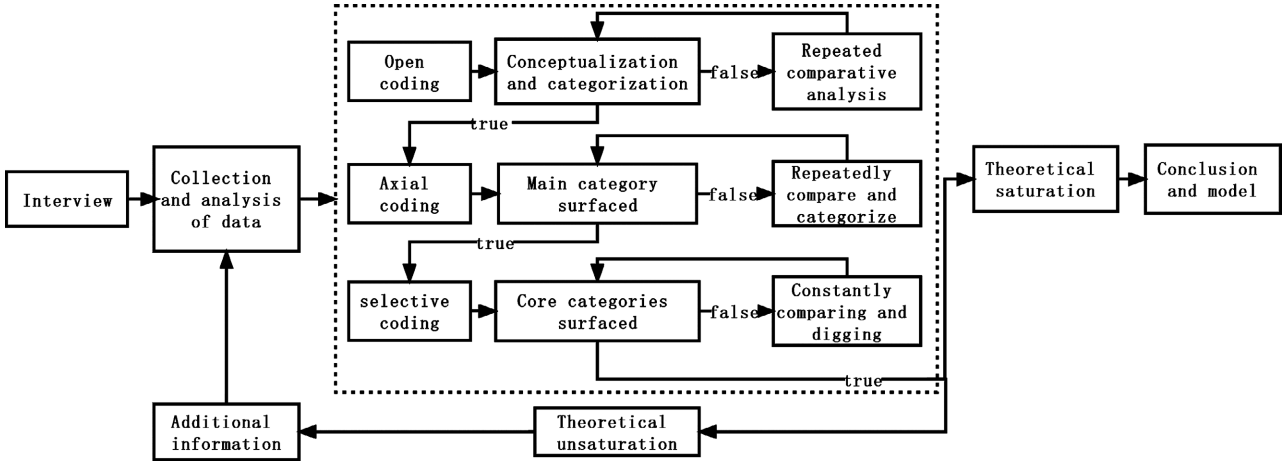

Figure 1. Grounded theory research flow chart.

Table 3. Interviewer profile.

Item	Numbers	Percentage (%)
Sex		
Male	10	45.45
Female	12	54.55
Working years		
0 - 9 years	1	4.55
10 - 19 years	5	22.73
20 - 29 years	12	54.55
30 years and above	4	18.18
Source		
Pharmaceutical wholesale or wholesale and retail enterprises	12	54.55
Pharmaceutical retail enterprises or departments	8	36.36
Distribution of drug manufacturing companies	1	4.55
Intermediary evaluation agencies	1	4.55

referenceable experiences, this study employs in-depth interviews as a data collection method. In-depth interviews entail involving participants who are engaged in or have a direct relation to activities associated with the research subject (Charmaz, 2006). Therefore, we selected a sample of participating experts from representative pharmaceutical distribution enterprises and intermediary evaluation organizations. The sample size was determined according to Fassinger's suggestion on sample selection for grounded theory studies, and ultimately, 22 experts were identified to participate in the in-depth interviews (refer to Table 3).

4. Research Process

In this study, a sample of 15 units was randomly chosen for the initial coding

process, whereas the remaining 7 units were reserved for the purpose of theoretical saturation testing. Throughout the study, only concepts that appeared at least 3 times were considered for categorization.

4.1. Open Coding

During the open coding phase, the textual data underwent sentence-by-sentence coding. The original statements were first excerpted and numbered, with each interviewee represented by a capital letter, from A to V, and the corresponding statements were labeled with numbers in the order of extraction. For instance, the first extracted statement from the first interviewee was marked as A1, the second extracted statement as A2, and so on. The sentences were then coded using the native coding form, which was subsequently refined into initial concepts. Finally, these concepts were grouped into categories. The coding and analysis process was facilitated using of Nvivo12 throughout the study. A total of 665 original utterances were coded, and their corresponding concepts were generated. Concepts that appeared less than three times were removed, resulting in 62 categories, as illustrated in **Table 4**, which provides examples of open coding.

4.2. Axial Coding

Axial coding involves a repeated process of comparison and analysis of categories that are generated during the open-ended phase. This process requires refinement and differentiation of categories, application of both inductive and deductive thinking, and continuous iteration through the categories, focusing on one category at a time to distinguish and understand the primary and secondary categories as well as the relationships between different categories (Strauss, 1987). By applying axial coding, 62 categories were consolidated into 14 main categories, namely, CSR governance responsibility, employment, occupational health and safety, employee development and care, drug accessibility responsibility, drug supply assurance system, drug quality assurance system, supplier responsibility, customer and consumer responsibility, economic contribution, sustainable development, community involvement, public welfare and special pharmaceutical events, and environmental policy and management (see **Table 5**).

4.3. Selective Coding

Selective coding is an advanced stage of axial coding that involves further refinement of the categories and main categories generated in the initial two stages. This process entails expanding, analyzing, and focusing on the core categories, ultimately leading to the formation of a comprehensive framework with the core categories at its center. By conducting an in-depth analysis of both categories and main categories, the 14 previously identified main categories were consolidated into 7 core categories, namely: corporate responsibility governance, labor practice, responsibility for ensuring drug supply, supplier, customer and consumer responsibility, socio-economic responsibility, and community development and

Table 4. Open coding (excerpts).

Categorization	Initial Concept	Sentence-by-sentence encoding (native encoding)	Some excerpts of the original statements
Department in charge	Social Responsibility Committee	Our company has a dedicated CSR committee	D2 Our company has a dedicated CSR Committee that comprises three directors who spearhead the development of the company's CSR strategy, principles and policies. Their role also involves ensuring that the CSR policy adopted by the Board of Directors is continuously implemented and enforced, regularly monitoring the company's progress in meeting its CSR objectives, identifying and mitigating CSR-related risks, and advocating for adherence to national policies, laws and regulations.
	Department responsible	Administration and quality departments have more social responsibility content	P14 The department in charge of administration and our department in charge of quality may take more responsibility for this aspect.
Responsibility Report	Social Responsibility Report	We have been producing CSR reports,	A21 We are a company listed in Hong Kong, and we have been producing CSR reports for about 10 years. Now, at the request of the Hong Kong Securities and Futures Commission, we are compiling the ESG report, which also covers CSR.
Website Disclosure	Social Responsibility Segment	Open a CSR section on our website	P12 Because we are planning to be listed, we also make some preparations for this. Although our CSR report has not yet been made, we have started to open a CSR section on our website for publishing relevant information.
Compliance Management System	Compliance system	There is specialized compliance department to develop relevant policies and documents, and to track, review, spot check them	B37 The compliance department is designated to. to develop relevant compliance policies and documents, issue these documents, and then track the implementation of the documents. Relevant reviews, spot checks and others also follow according to its rules.
Anti-corruption and anti-corruption system and training	Anti-bribery and anti-corruption system	It may be more involved in anti-corruption and anti-bribery. We need to focus on these two points, and the system should be improved	E14 Many of the characteristics of drug distribution companies lean more towards commercial companies. This is about business ethics and may also be more about anti-corruption and anti-bribery. Moreover, these are the two more important points, so we need to focus on these two points, and the system should be improved.
	Anti-Corruption daily training	Daily learning and training on anti-corruption system is required	B38 It needs to receive supervision on a daily basis. Because you are given various anti-corruption systems, you have to study and train on this system on a daily basis.

Table 5. Axial coding.

Main Categories	Categorization
CSR governance responsibility	Department in charge; responsibility report; website disclosure; compliance management system; Anti-corruption and anti-corruption system and training
Employment	Employee income; employee communication
Occupational health and safety	Occupational health and safety training; medical examination and health file coverage
Employee development and care	Career development training; career pathways; benefits; annuities

Continued

Drug accessibility responsibility	Business geographic breadth; business geographic depth; drug variety diversity; third-party pharmaceutical logistics distribution services; vaccine storage and transportation business; distribution and sales of bulk-buying of drugs; cold chain pharmaceutical products business; rare disease drugs operation; imported drugs operation; medical equipment operation; Chinese herbal medicine operation; anti-tumor drugs operation; specially managed drugs operation; drug reserve responsibility; business model innovation; national logistics base for Chinese herbal medicine; foreign trade development of Chinese medicine; participation in international drug procurement and marketing network construction; foreign investment and cooperation in the field of pharmacy circulation
Drug supply assurance system	Comprehensive logistics (retail) service capabilities; pharmaceutical cold chain logistics system construction and operation; supply chain information support and innovation services; engaged in pharmaceutical import, storage, transportation, marketing and other different aspects of hardware and software development
Drug quality assurance system	Drug quality management system construction; GSP-related quality training; quality management system certification; drug recall system construction; expiration date drug warning mechanism; official warnings/penalties/notifications for the quality of the pharmaceutical products operated
Supplier responsibility	Regular audit mechanism for supplier social responsibility assessment and investigation; supplier opinion monitoring platform or management
Customer and consumer responsibility	Information security management system certification; prescription drug compliance sales status; customer and consumer communication and complaint channel construction
Economic contribution	Return on net assets; growth rate of main business income; administrative penalty
Sustainable development	Leading or participating in drafting industry-related policies, regulations or standards; growth of market share of drug distribution; growth rate of net assets
Community involvement	Prevention of drug abuse; information on pharmaceutical activities such as the promotion of rational drug use, pharmaceutical science, and expert clinics; pharmaceutical assistance programs; expired drug recycling activities; assistance for low-income patients; provision of a practice base for pharmaceutical-type activities
Public welfare and special pharmaceutical events	Public charity activities and the number of beneficiaries; anti-special medicine event input
Environmental policy and management	The norms establishment for the recovery and disposal of expired and substandard drugs; the use of reusable drug turnover distribution containers

public welfare responsibility. These core categories were then used to develop a hierarchy model to evaluate CSR of Chinese pharmaceutical distribution companies (see **Figure 2**).

4.4. Theoretical Saturation Test

When new materials and data are continuously introduced for comparison, analysis and integration, but fail to generate new concepts, categories or relationships, and the logical relationship between the categories remains constant, it is considered that the theory has reached saturation and the sampling analysis can be concluded. In this study, 15 samples were randomly selected for prior coding, and the remaining 7 samples were reserved for the theoretical saturation test. By analyzing the 7 samples, no new content emerged. Hence, the hierarchey

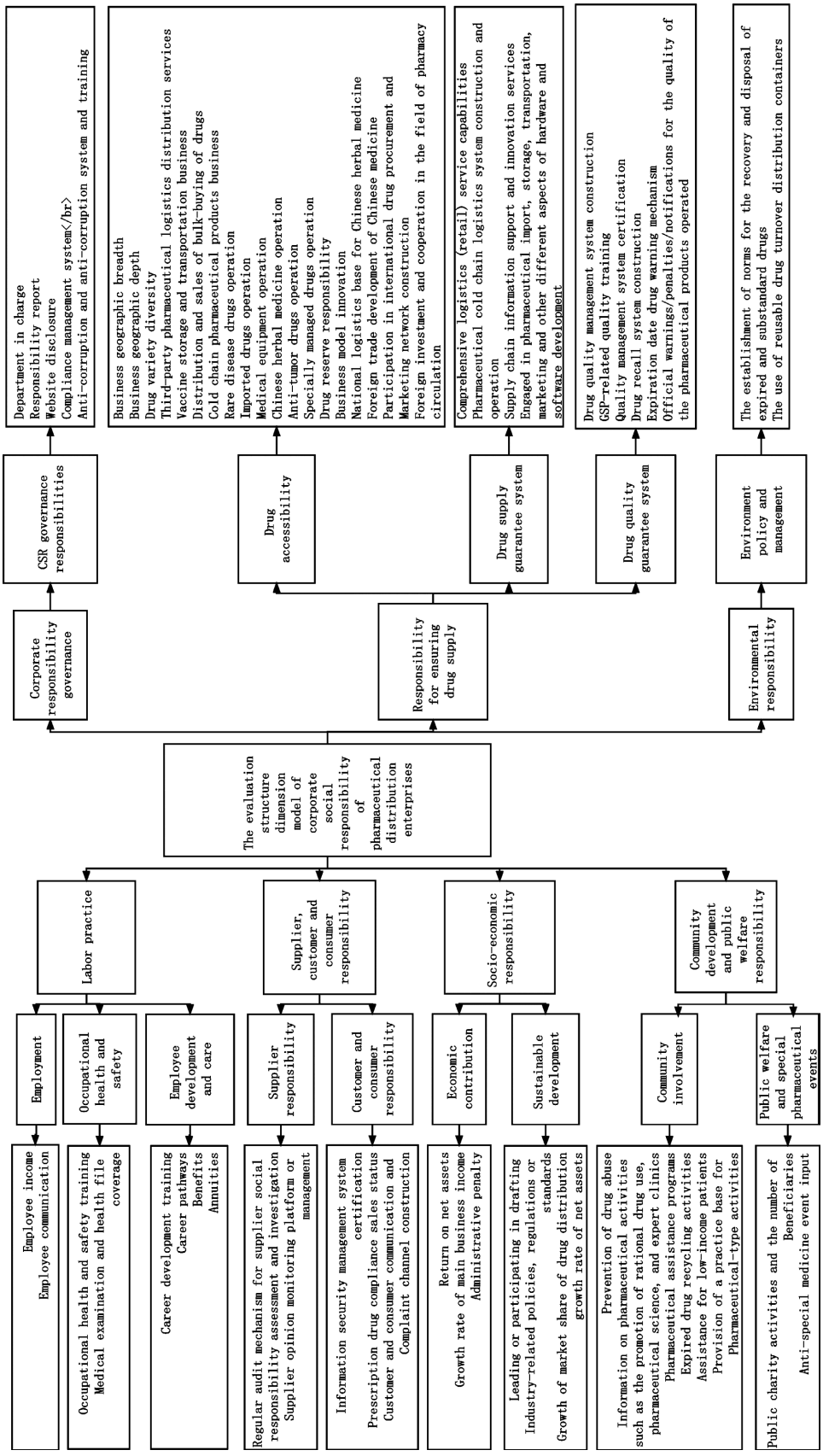

Figure 2. A hierarchey model to evaluate CSR of Chinese pharmaceutical distribution enterprises.

model of social responsibility evaluation for pharmaceutical distribution enterprises has met the test prerequisites and reached theoretical saturation.

5. Construction of Model Interpretation and Evaluation Index System

5.1. Model Interpretation

According to the three-step coding model of the evaluation structure of grounded theory, the CSR evaluation hierarchey model for pharmaceutical distribution enterprises is composed of 7 core categories: corporate responsibility governance, labor practices, responsibility for ensuring drug supply, supplier responsibility, customer and consumer responsibility, socio-economic responsibility, and community development and public welfare responsibility. These categories are distinct and interdependent, forming a holistic evaluation framework for social responsibility.

5.1.1. Corporate Responsibility Governance

The effective implementation of CSR practices in pharmaceutical distribution enterprises necessitates a systematic approach. This approach involves establishing pertinent strategies, principles, and policies from relevant management and ensuring their implementation. It also requires regular audits, risk management, adherence to national policies and regulations, and timely communication of CSR implementation to the society. Additionally, it integrates CSR implementation with the corporate management system, remediating adverse impacts, and promoting sustainable development. CSR governance encompasses the establishment of specialized management or departments that are responsible for social responsibility work. There should be timely and accurate disclosure of CSR implementation through various channels. An effective anti-corruption compliance system should also be established. Furthermore, timely training is necessary to deliver CSR ideas and anti-corruption and anti-bribery compliance into the daily operations of the company.

5.1.2. Labor Practice

The workforce, or "People," represents a crucial element in business development, and employee is an essential part of any business. The company has an inescapable social responsibility to its employees. These responsibilities are founded on the initiatives and norms issued by international labor or human rights organizations and the labor laws of each country, encompassing employment, occupational health and safety, and employee development and care. The relationship between the company and its employees must ensure the quality of the employee's production and life, must provide adequate income to maintain their standard of living. Additionally, any work-related issues must be resolved promptly and efficiently. Companies should provide a safe working environment that facilitates the employee's overall health and productivity. Moreover, enterprises must support employees' development and care their life by offering training, devel-

opment planning, and other opportunities to promote their growth. In turn, employees can contribute to the enterprise and society.

5.1.3. Responsibility for Ensuring Drug Supply

Pharmaceutical distribution enterprises have a distinctive social responsibility of ensuring drug supply, which encompasses drug accessibility, drug supply guarantee system, and drug quality guarantee system. The responsibility of drug accessibility is primarily concerned with the geographical accessibility of drugs, thereby resolving the challenges of separating the place of drug manufacturing and use. Given the irreplaceable and medically exclusive nature of drugs, pharmaceutical distribution enterprises need to expand the geographic range of their operations and increase the variety of drugs operated in order to ensure the accessibility of drugs. The business model, accessibility of Chinese herbal medicines, and international flow of medicines also need to be considered. The drug supply guarantee system refers to the ability to guarantee the flow of drugs. Meanwhile, the drug quality assurance system refers to the establishment of systems and training to ensure the quality of drugs in the process of import, storage, transportation, and distribution.

5.1.4. Supplier, Customer and Consumer Responsibility

Suppliers, customers and consumers represent the "head" and "tail" of the drug distribution chain. The operation and circulation of pharmaceutical products are subject to strict regulations. All products of pharmaceutical distribution enterprises originate from upstream suppliers, and they bear the unshirkable responsibility to evaluate, audit and monitor suppliers to ensure that the products they operate are legal, compliant and meet quality requirements. Pharmaceutical products are special commodities that require compliant sales of prescription drugs. Companies should prioritize the safety and privacy of downstream customers and consumers, maintain effective communication with them, and solve their problems promptly.

5.1.5. Socio-Economic Responsibility

Pharmaceutical distribution enterprises are business entities. Their economic contributions and sustainable development, on the one hand, support the normal operations. On the other hand, is also essential to fulfill corporate social responsibility obligations from diverse perspectives. This includes meeting the expectations of shareholders, the government, social and economic development, employees, suppliers, and customers, and other aspects of the enterprise. These lay a solid foundation for the effective execution of corporate social responsibility.

5.1.6. Community Development and Public Welfare Responsibility

The community development and public welfare responsibilities of pharmaceutical distribution companies consist of two parts: community participation and public benefit & special medical events. Although community involvement and public welfare are not compulsory responsibilities, increasing civic awareness

and rapid economic growth have raised expectations that companies should participate and contribute to community development and public welfare. As an industry closely related to public health, pharmaceutical distribution companies can fulfill their social responsibility by contributing to community development and engaging in public welfare activities that align with their values. Pharmaceutical distribution enterprises can leverage their unique strengths and industry background to engage in initiatives such as drug abuse prevention, promoting rational drug use, providing expert medical consultation, facilitating drug assistance, recycling expired drugs, establishing pharmacy practice bases, supporting public charities, and contributing to special pharmaceutical events. By doing so, they can enhance their public image and fulfill their corporate social responsibility.

5.1.7. Environmental Responsibility

Since the pharmaceutical distribution industry is not directly involved in production activities, there are limited environmental responsibilities involved. However, given most of the pharmaceuticals are chemicals, the appropriate recycling and disposal of unqualified drugs, and the establishment of relevant regulations, represent a social responsibility evaluation element specific to pharmaceutical distribution enterprises. Furthermore, the use of disposable or reusable containers in the distribution of pharmaceutical products demonstrates the enterprise's commitment to resource conservation and utilization.

5.2. Evaluation Index System Construction

In this paper, we use Nvivo12 analysis software to code and analyze the interview results of 22 in-depth interviewees. Firstly, we generated 665 original statements, which were then summarized into 62 categories. Subsequently, we established 14 main categories by axial coding. Finally, we employed selective coding to consolidate these into 7 core categories, which served as the foundation for the CSR evaluation structure dimension model for pharmaceutical distribution companies. Building on the grounded theory and the hierarchey model, a CSR evaluation index system of pharmaceutical distribution enterprises was constructed which consists of 7 primary indicators, 14 secondary indicators and 62 tertiary indicators, as presented in Table 6.

6. Conclusion

This study adopted in-depth interviews as the data collection method, with 22 in-depth interviews conducted with relevant personnel in the pharmaceutical distribution industry as the original data. Using the grounded theory, this research summarized and developed the CSR evaluation framework dimensional model of pharmaceutical distribution enterprises. Based on that, an evaluation index system is built with 7 primary indicators, 14 secondary indicators and 62 tertiary indicators. Corporate responsibility governance, labor practices, responsibility for ensuring drug supply, supplier, customer and consumer responsibility, socio-economic responsibility, community development and public welfare

Table 6. CSR evaluation index system of pharmaceutical distribution enterprises.

Primary Indicators	Secondary indicators	Tertiary indicators
Corporate responsibility governance	CSR governance responsibilities	Department in charge; responsibility report; website disclosure; compliance management system; Anti-corruption and anti-corruption system and training
Labor practice	Employment	Employee income; employee communication
	Occupational health and safety	Occupational health and safety training; medical examination and health file coverage
	Employee development and care	Career development training; career pathways; benefits; annuities
Responsibility for ensuring drug supply	Drug accessibility responsibility	Business geographic breadth; business geographic depth; drug variety diversity; third-party pharmaceutical logistics distribution services; vaccine storage and transportation business; distribution and sales of bulk-buying of drugs; cold chain pharmaceutical products business; rare disease drugs operation; imported drugs operation; medical equipment operation; Chinese herbal medicine operation; anti-tumor drugs operation; specially managed drugs operation; drug reserve responsibility; business model innovation; national logistics base for Chinese herbal medicine; foreign trade development of Chinese medicine; participation in international drug procurement and marketing network construction; foreign investment and cooperation in the field of pharmacy circulation
	Drug supply assurance system	Comprehensive logistics (retail) service capabilities; pharmaceutical cold chain logistics system construction and operation; supply chain information support and innovation services; engaged in pharmaceutical import, storage, transportation, marketing and other different aspects of hardware and software development
	Drug quality assurance system	Drug quality management system construction; GSP-related quality training; quality management system certification; drug recall system construction; expiration date drug warning mechanism; official warnings/penalties/notifications for the quality of the pharmaceutical products operated
Supplier, customer and consumer responsibility	Supplier responsibility	Regular audit mechanism for supplier social responsibility assessment and investigation; supplier opinion monitoring platform or management
	Customer and consumer responsibility	Information security management system certification; prescription drug compliance sales status; customer and consumer communication and complaint channel construction
Socio-economic responsibility	Economic contribution	Return on net assets; growth rate of main business income; administrative penalty
	Sustainable development	Leading or participating in drafting industry-related policies, regulations or standards; growth of market share of drug distribution; growth rate of net assets
Community development and public welfare responsibility	Community involvement	Prevention of drug abuse; information on pharmaceutical activities such as the promotion of rational drug use, pharmaceutical science, and expert clinics; pharmaceutical assistance programs; expired drug recycling activities; assistance for low-income patients; provision of a practice base for pharmaceutical-type activities
	Public welfare and special pharmaceutical events	Public charity activities and the number of beneficiaries; anti-special medicine event input
Environmental responsibility	Environment policy and management	The norms establishment for the recovery and disposal of expired and substandard drugs; the use of reusable drug turnover distribution containers

responsibility, and environmental responsibility constitute the primary indicators. The system not only reflects the content of social responsibility of pharmaceutical distribution enterprises, but also embodies their unique characteristics. The evaluation index system developed in this study requires careful consideration of the source and accuracy of the index data. Whenever possible, external data sources should be utilized to enhance the reliability and validity of the evaluation results. Potential sources of externally obtained data may include official government platforms, reputable websites, social groups, and organizations.

Overall, this system is scientifically rigorous and practical. The results of this study have practical implications for various stakeholders. Specifically, they can serve as a reference for the government to regulate pharmaceutical distribution enterprises, for investors to identify appropriate investment targets, and for enterprises to assess and improve their own social responsibility practices.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Amerine, L. B., Eckel, S. F., Granko, R. P., Chad, H., Scott, S., Elizabeth, F. et al. (2017). Improving Employee Engagement within a Department of Pharmacy. *American Journal of Health-System Pharmacy: AJHP: Official Journal of the American Society of Health-System Pharmacists, 74,* 1316-1319. https://doi.org/10.2146/ajhp160740

Brammer, S., & Millington, A. (2008). Does It Pay to Be Different? An Analysis of the Relationship between Corporate Social and Financial Performance. *Strategic Management Journal, 29,* 1325-1343. https://doi.org/10.1002/smj.714

Chang, Y., He, W., & Wang, J. (2021). Government Initiated Corporate Social Responsibility Activities: Evidence from a Poverty Alleviation Campaign in China. *Journal of Business Ethics, 173,* 661-685. https://doi.org/10.1007/s10551-020-04538-w

Charmaz, K. C. (2006). Constructing Grounded Theory: A Practical Guide through Qualitative Analysis. *International Journal of Qualitative Studies on Health and Well-Being, 1,* 188-192. https://doi.org/10.3402/qhw.v1i3.4932

Clark, J. M. (1916). The Changing Basis of Economic Responsibility. *Journal of Political Economy, 24,* 209-229. https://doi.org/10.1086/252799

Flammer, C. (2015). Does Corporate Social Responsibility Lead to Superior Financial Performance? A Regression Discontinuity Approach. *Management Science, 61,* 2549-2568. https://doi.org/10.1287/mnsc.2014.2038

Freeman, R. E., Harrison, J. S., Wicks, A. C. et al. (2010). *Stakeholder Theory: The State of the Art* (pp. 120-124). Cambridge University Press. https://doi.org/10.1017/CBO9780511815768

George, G., Schillebeeckx, S. J., & Liak, T. L. (2015). The Management of Natural Resources: An Overview and Research Agenda. *Academy of Management Journal, 58,* 1595-1613. https://doi.org/10.5465/amj.2015.4006

Hepler, C. D., & Strand, L. M. (1990). Opportunities and Responsibilities in Pharmaceutical Care. *American Journal of Hospital Pharmacy, 47,* 533-543. https://doi.org/10.1093/ajhp/47.3.533

Huang, H. C., & Deng, D. M. (2019). Analysis of the Type of Drug Distribution Industry and Market Structure in China. *China Economist, 368,* 57-58.

Kumar, V., Srivastava, A., & Woodside, A. G. (2022). Trends in the Thematic Landscape of Corporate Social Responsibility Research: A Structural Topic Modeling Approach. *Journal of Business Research, 150,* 26-37. https://doi.org/10.1016/j.jbusres.2022.05.075

Latif, K. F. (2017). The Development and Validation of Stakeholder-Based Scale for Measuring University Social Responsibility (USR). *Social Indicators Research, 140,* 511-547. https://doi.org/10.1007/s11205-017-1794-y

Li, C. Y., Huang, H. W., Yao, J. X. et al. (2022). Guangzhou Pharmaceutical Holdings Limited's Brand Upgrading Road to Big Market. *China State-Owned Enterprise Management, 15,* 74-84.

Li, W., Xu, G., Zuo, D. et al. (2021). Corporate Social Responsibility Performance-Evaluation Based on Analytic Hierarchy Process-Fuzzy Comprehensive Evaluation Model. *Wireless Personal Communications, 118,* 2897-2919. https://doi.org/10.1007/s11277-021-08161-4

Li, Y. (2022). China's Corporate Social Responsibility Fulfillment Is Changing from Passive to Active|Interpretation of the "2022 China Corporate Social Responsibility Research Report: The Power of Endogeneity" (Part 1). *Yicai*. https://www.yicai.com/news/101647239.html

Masulis, R. W., & Reza, S. W. (2014). Agency Problems of Corporate Philanthropy. *The Review of Financial Studies, 28,* 592-636. https://doi.org/10.1093/rfs/hhu082

Nassereddine, M., & Eskandari, H. (2017). An Integrated MCDM Approach to Evaluate Public Transportation Systems in Tehran. *Transportation Research Part A: Policy and Practice, 106,* 427-439. https://doi.org/10.1016/j.tra.2017.10.013

Nematollahi, M., & Hosseini-Motlagh, S. M. (2022). A Collaborative Decision-Making Model for Collecting Unused Medications in an Environmentally Responsible Pharmaceutical Supply Chain. *International Journal of Environmental Science and Technology, 19,* 1907-1924. https://doi.org/10.1007/s13762-021-03332-z

People's Daily on Line (2016). *Joint Investigation Team Report on the Progress of the Investigation into the Series of Illegal Vaccine Sales in Jinan, Shandong.* http://politics.people.com.cn/n1/2016/0413/c1001-28274292.html

Sarkar, S., & Searcy, C. (2016). Zeitgeist or Chameleon? A Quantitative Analysis of CSR Definitions. *Journal of Cleaner Production, 135,* 1423-1435. https://doi.org/10.1016/j.jclepro.2016.06.157

Strauss, A. L. (1987). *Qualitative Analysis for Social Scientists* (p. 32). Cambridge University Press. https://doi.org/10.1017/CBO9780511557842

Sun, J. G., Shi, J. H., & Wang, J. X. (2020). Research on Blockchain Corporate Social Responsibility Evaluation Index System. *Wisdom China, No. 9,* 66-69.

Tao, Y., & Leng, W. W. (2018). Evaluation on Mineral Resources-Oriented Enterprises' Corporate Social Responsibility—A Case Study of Yanzhou Coal Mining Company Limited. *Journal of Southwest China Normal University (Natural Science Edition), 43,* 108-114.

Thresh Kumar, D., Palaniappan, M., Kannan, D., & Shankar, K. M. (2014). Analyzing the CSR Issues behind the Supplier Selection Process Using ISM Approach. *Resources, Conservation and Recycling, 92,* 268-278. https://doi.org/10.1016/j.resconrec.2014.02.005

Wang, H. L., Tong, L., & Luo, Y. Y. (2020). Corporate Social Responsibility: A Literature Review and Implications for Future Research. *Quarterly Journal of Management, 5,*

1-15+160.

Zhang, L. L. (2007). Discussion on the Social Responsibility of Pharmaceutical Enterprises. *China Pharmaceuticals, 22,* 17-18.

Zhao, Z. Y., Zhao, X. J., Davidson, K., & Jian, Z. (2012). A Corporate Social Responsibility Indicator System for Construction Enterprises. *Journal of Cleaner Production, 29-30,* 277-289. https://doi.org/10.1016/j.jclepro.2011.12.036