DATA NETWORKS IN CIRCULAR ECONOMY DEVELOPMENT: INTERNATIONAL EXPERIENCE AND SOME RECOMMENDATIONS FOR VIETNAM

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Title: *Mạng lưới dữ liệu trong phát triển kinh tế tuần hoàn: Kinh nghiệm quốc tế và một số khuyến nghị cho Việt Nam*

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TÓM TẮT

Mạng lưới dữ liệu không chỉ đơn thuần là việc thu thập dữ liệu của các bên tham gia mà còn mang ý nghĩa trong việc hỗ trợ phát triển bền vững. Thông qua phân tích dữ liệu chung về chuỗi cung ứng, vòng đời sản phẩm, và hành vi tiêu dùng, mạng lưới dữ liệu giúp nhận diện các cơ hội cho đổi mới công nghệ xanh và mô hình kinh tế tuần hoàn. Về lâu dài, kinh tế tuần hoàn cần xây dựng mạng lưới dữ liệu để đảm bảo các hoạt động sẽ được duy trì ở trạng thái hài hòa nhất. Dựa trên phương pháp thu thập thông tin và phân tích dữ liệu thứ cấp, bài viết sẽ xem xét quy định chính sách pháp luật Việt Nam hiện hành và đánh giá thực trạng về quản trị dữ liệu tại Việt Nam. Bên cạnh đó, nghiên cứu cũng tiến hành phân tích kinh nghiệm của Trung Quốc và Liên minh châu Âu (EU). Qua đó, đưa ra một số bài học kinh nghiệm quý báu cho Việt Nam trong hành trình hoàn thiện mạng lưới dữ liệu quốc gia, phục vụ phát triển nền kinh tế tuần hoàn.

ABSTRACT

The data network is not only about collecting data from participants but also has a meaning in supporting sustainable development. Through analyzing common data on supply chains, product life cycles, and consumer behavior, the data network helps identify opportunities for green technology innovation and circular economic models. In the long term, the circular economy needs to build a data network to ensure that activities will be maintained in the most harmonious state. Based on the method of collecting information and analyzing secondary data, the article will review current Vietnamese legal policies and assess the current status of data governance in Vietnam. In addition, the study also analyzes the experiences of China and the European Union (EU). This provides some valuable lessons for Vietnam in the journey of perfecting the national data network, serving the development of the circular economy.

1. Introduction

Circular economy (CE) is a model that focuses on utilizing resources and recycling products to create sustainable production cycles (Gupta et al., 2019). Currently, developing a CE is considered a global goal. All 72 countries participating in the 2015 Paris Agreement ensure the implementation of a CE in their climate and environmental commitments (Ungerman & Dědková, 2020). In the context of a CE,

some important issues need to be considered: how to effectively manage data flows, optimize resource use towards sustainable development.

In designing, building and implementing an efficient sorting and recycling system at the regional or local scale, it is important to first understand the volume and composition of products in the system (Novak 2022). Data networks help to track emissions or measure fluctuations in the labor market. Data on CE helps to monitor the state and level of circularity of the economy, typically: Solid waste recycling rate, Waste utilization recycling rate, Resource circular efficiency (Le & Do, 2022). The quality framework of the data network records from the stage of raw material data in product components being collected, to the next stage of tracking, tracing and verifying the authenticity of product data. They create trust in the circular activity chain by meeting the requirements for product reuse, recycling and minimizing industrial waste landfill throughout the product life cycle.

The CE requires a huge amount of data. The data will not be processed by humans but mainly through machines, including artificial intelligence (AI), so it will be necessary to enhance the interoperability of information technology systems. In addition, circulating a large amount of data can create risks regarding coherence, synchronization, consistency, security and information safety. Therefore, digitalizing the data network is an appropriate national data governance method.

In recent years, every year, state agencies and industry and professional associations in Vietnam have organized forums and seminars with the theme of CE. For example, the 4th Ho Chi Minh City Economic Forum (HEF 2023) focused on exchanging and discussing the national green growth orientation, the journey towards zero emissions by 2050 according to the approval on climate change in Decision No. 896/QD-TTg and the CE development project in Decision No. 687/QD-TTg. Or recently, the 6th Ho Chi Minh City Economic Forum (HEF 2025) with the theme "AI - From Technology to Practice" aimed at promoting the digital transformation process, developing the AI ecosystem and promoting international cooperation in the field of science and technology. Among them, the GRECO 2025 exhibition on green technology is one of the activities that receives a lot of attention from individuals and businesses. This is a place for government agencies, businesses, and scientists to sit together and present opportunities, potentials, and directions for building a data network in developing a national CE.

Based on practical needs, the study will analyze regulations and policies related to data management in Vietnam and implementation practices in some countries and regions in the world such as China and the EU. The study selected the Chinese and EU models in building and developing data networks for the circular economy because these two regions represent two pioneering and opposing approaches in promoting the Circular Economy. The European Union (EU) is a leading region with comprehensive legal frameworks and standards at the international level, focusing on transparency, accountability and the application of advanced digital technology to create detailed and easily accessible product data flows. In contrast, China has

politicized data governance (including data related to the circular economy) at the national level through legal regulations, specifically applying a 3-level development model and focusing on building measurement systems to manage and optimize material flows. The research results aim to establish policies for the goal of implementing the construction and effective management of data networks in our country in the coming time. Thereby, proposing a number of appropriate proposals in perfecting Vietnam's policies on data and data networks. This research focuses on two main issues: (1) Analyzing the content of legal regulations and the current status of regulations and policies on data management in our country, (2) Proposing a number of solutions to build and perfect data network policies based on international experience.

Compared to some previously published domestic and foreign research works, the new point of the study is closely linked to Vietnam's sustainable development orientation in the green transition and digital transformation period. Analyzing the role of data networks in circular economic development is considered a relatively new research direction, especially in the context of Vietnam building a national data policy framework and implementing the Circular Economy Strategy to 2030.

The main sources of data used in the analysis are legal documents in Vietnam including the Constitution, Laws, Decrees. In addition, some specialized Laws of China and the EU are also used as secondary data. This study uses qualitative research methods through the analysis of legal regulations and policies related to data. Specifically, the document analysis method is mainly used in part 2 to overview the concepts, roles and characteristics of data and data networks. The content analysis method to identify regulations, current status and international experience in developing data networks is used in parts 3 and 4. The comparison and synthesis method is used in part 5 to evaluate aspects related to data networks, thereby drawing conclusions and some recommendations for promoting policies and perfecting the data network system in Vietnam.

2. Theoretical basis

2.1. Concept of data and data network

In the digital realm, data is seen as the raw material for computation and machine operation. In other words, data makes computers useful. In relation to information and knowledge, data represents uninterpreted symbols and signs. Information is data that has been decoded and given additional meaning. Knowledge is the ability to assign meaning to data and information to derive new knowledge and conclusions (Stepanov, 2020). On the other hand, data is a means to provide digital services across borders (Casalini & González, 2019).

In the legal field, data is of particular interest in protecting privacy. The EU's General Data Protection Regulation (GDPR) provides an indirect definition of data. Under the GDPR, data is divided into two main categories: personal data (data that can identify a specific user) and non-personal data (data that cannot identify that individual).

A data network is a system that connects devices to share information and

resources, providing a transmission platform that allows users and applications to access, share, and manage information quickly, efficiently and reliably (Ramesh et al., 2023). The data network is the fundamental building block for the CE, serving as a digital infrastructure to collect, share and analyze the critical information needed for the transition from a linear "take-make-dispose" model to a recovery and regeneration model (Han et al., 2023). The data network facilitates the visibility, tracking and collaboration needed across the entire product lifecycle (Shabanpour et al., 2025).

2.2. Data Governance Framework

A data governance framework is a structured system of policies, processes, roles, and responsibilities (Al-Badi, et al., 2018). In other words, it is a structured operating model that defines how an organization manages, secures, and uses its data assets to achieve maximum business value and compliance. The goal of a data governance framework is to manage, secure, and ensure the quality of data within an organization (Huff & Lee, 2020). In practice, a data governance framework is typically built on four main pillars: People, Processes, Technology, and Policy.

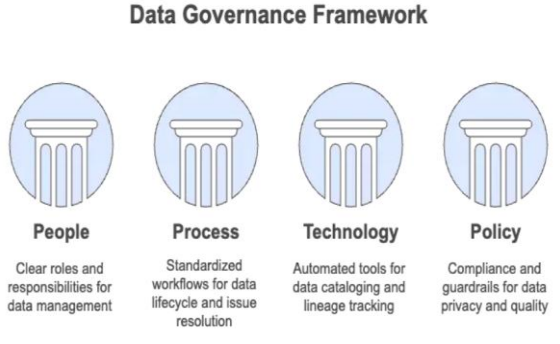

Figure 1: Pillars of a Data Governance Framework. *(Source: Mohan, 2025)*

Implementing a data governance framework not only helps improve the quality of accurate and consistent data for decision-making, reducing the risk of data breaches and associated penalties, but also enhances business value through improved speed of analysis and innovation (Zorrilla & Yebenes, 2022).

2.3. The role of data and data networks

Data plays an important role in many scientific fields, including engineering, economics, law and many others. The meaning of data can change depending on the context and purpose of use (Casalini & González, 2019).

In terms of role, data is considered in the aspects of growth, privacy, competition, inclusion and financial stability separately (Shabanpour & Haksar, 2019). Data research and application have appeared in many different fields, including: product quality monitoring applications in manufacturing; applications in service environments; applications in supply chain management; applications in information synthesis and analysis activities. For manufacturing activities, based on the data platform collected during the production process, businesses can develop recognition analysis models to detect product defects (Abrahams et al., 2014). Along with the diversity of data in the market, data research can help to gain deeper understanding of consumer behavior and improve marketing activities. To ensure confidentiality, most customer service data are de-identified after collection. Data quality as a prerequisite for commercial viability of business models in the CE (Argus et al., 2020).

In a CE, data from multiple processes are connected to form a data network. The data network is the input source for the development of a CE plan, and is also the basis for handling remaining gaps (assessment, supplementation, and amendment) in the operation process, playing a central role in operating the economic circle.

However, the data network is not always complete and flawless. A 2021 survey study by the Organization for Economic Cooperation and Development (OECD) found that cities and regions in North America and South America tend to have difficulty collecting valuable data to measure emissions (OECD, 2021). The gaps in the data network come from data sharing between parties. The complexity of data protection policies in different countries and localities is the main cause of the challenges.

2.3. Characteristics of data networks in the circular economy

In addition to the importance, availability and sensitivity of the data provided, the quality of data in the CE is assessed based on the meaningful benefits that the data network brings. Data in the CE can be divided into 7 basic types: (1) data in usage and maintenance activities, (2) data on product identification, (3) data on products and materials, (4) manuals and manuals, (5) data related to supply chains and reverse logistics, (6) environmental data and (7) compliance policies.

Table 1: *Basic differences between linear supply chains and circular supply chains*

	Supplier	**Manufacturer**	**Service Provider**	**Customer**	**Recycling Company**
Linear supply chain	Orientation of transition to component production	Product manufacturing transition orientation	Maintenance over time	Traditional procurement and end-of-life disposal methods	Retain material value with little concern for irreversible loss
Circular supply chain	Remanufacturing components	Selecting and using value maintenance strategies at the product level	Condition-Based Maintenance	Sustainable purchasing, product longevity, end-of-life trajectory	Retains material value with reversible loss

(Source: Jensen et al., 2023)

In particular, developing a data network serving the CE aims to: (1) create cohesion between relevant subjects in the production process, (2) improve the synchronization of data shared by parties, (3) unify the value and effectively use the output, (4) ensure data security throughout the product circulation process, (5) enhance the national information security platform against high-tech crimes.

Table 2: Characteristics and significance of data networks

Characteristic	Meaning in data networks
Engagement	The engagement of parties in data provision and sharing will create the basis for the development and improvement of the data network.
Synchronization	Synchronized data makes it easier to track progress and assess impact. This also helps to minimize the cost of information security activities.
Consistency	Data network consistency is a way to stimulate the transition to a CE.
Security	Data types have different levels of importance, security is necessary for large-volume data network systems..
Information security	Ensure the data network is secure with multiple protection methods, avoiding data breaches by high-tech criminals.

(Source: Author's synthesis)

Developing a circular economy is a strategic goal that requires the ability to trace materials and optimize product lifecycles through a data network that allows seamless information sharing among stakeholders (manufacturers, recyclers, consumers). The effectiveness of a data network depends on the quality of the input data (Brown, et al., 2013). Therefore, data governance plays a core role, establishing rules, functions and processes to ensure that data in the network is always accurate, reliable, secure and compliant with legal policies.

3. Current status of data governance regulations and policies in Vietnam

In Vietnam, the implementation of digital transformation and the development of Industry 4.0 has been demonstrated through Decisions No. 749/QD-TTg, No. 942/QD-TTg and No. 2289/QD-TTg. In addition, the 13th National Party Congress also set the goal of building a green, circular and environmentally friendly economy. Building a CE is one of the national policies and orientations that our country has set for the period 2021-2030, with a vision to 2045. The State, through the management, analysis and use of data, implements digitalization, contributing to improving efficiency (Lai & Nguyen, 2022). Regarding the legal framework on data, previously, regulations on data in Vietnam were scattered in many legal documents from the 2013 Constitution, the 2018 Law on Cyber Security and other documents, leading to inconsistency and many limitations. In particular, the rights and responsibilities of parties related to personal data are still vague, or the protection of personal data and privacy when transferring data across borders are not fully regulated (Ngo & Nguyen, 2025). In May 2023, Decree 13/2023/ND-CP on personal data protection officially took effect and resolved many issues. The Decree has unified concepts and regulations on personal data, recognized the rights of individuals as data subjects, and provided technical and legal

requirements for the processing of personal data. The Decree also defines the role of personal data protection agencies in Vietnam and provides specific regulations on cross-border personal data processing.

In general, national data governance in Vietnam is currently facing many organizational and operational challenges, reflected in its fragmented nature and lack of centralization and unity. Despite efforts to promote digital transformation, the absence of a national data coordinating agency with sufficient authority and functions to set common standards and monitor implementation has led to a situation where ministries, sectors and localities manage data separately. This problem is further complicated by the persistent conflict between the need for data security (ensuring information security and privacy) and the need for public-private data sharing (to exploit the economic and social value of data).

In the context of a CE, data management needs to be approached differently. Due to its intangible nature and natural recyclability, data can be the output of one process and at the same time become the input of another process (Hox & Boeije, 2005). Therefore, the main goal of data management in a CE is not to find ways to recycle data, but to find ways to optimize the use and exploitation of data, in order to achieve maximum benefits.

Establishing a data usage mechanism promotes regulatory compliance and optimizes business performance. The data governance model is similar to a sturdy tripod, with individuals, businesses, and the state as three legs. In that model, individuals want to protect privacy, businesses optimize resources and increase data accessibility, and the state wants to monitor data and is responsible for issuing management policies that ensure a balance between the interests of individuals and businesses (Camille, 2021). In a CE, data management is not only about collecting and storing, but also optimizing the use of data. This requires careful consideration of the common good and individual privacy, as well as integrating information across the supply chain to optimize resources. Overall, the core issue of concern is the ability to access data domestically and internationally.

4. Experience of some countries in building and developing data networks to serve the circular economy

Many regions are now establishing data governance models with different priorities. The EU is a good example of data governance, with the first data legislation such as GDPR to protect personal data. The EU's focus is on protecting privacy and human rights, but at the same time it also encourages cross-border data. The US is more focused on the market where businesses use data. China initially focused on the ability of the government to control data, then prioritized the goal of balancing personal and business interests with a data governance model, ensuring domestic access to data (Liu, 2021).

4.1. China's data governance experience

China has introduced a new approach to exploiting the potential of data (Camille, 2021). At the fourth conference in October 2019, China considered data as a “factor of production”, which stems from China’s view of the data market as an economic market. Although there is much debate about whether data should be considered

property, the government is supporting the view that data is property, as demonstrated by the five-year plan (2021-2025) that requires the establishment and improvement of data-related transactions (Xinhua News Agency, 2021). Chinese legal scholars are still debating the nature of data in data laws and there is no consensus. One side argues that data ownership should not be granted due to its intangible nature and the risk of disputes. Instead, the law should focus on regulating access to and use of data. In contrast, another view argues that it is necessary to create data ownership with new ownership models created specifically for data (referring to different models such as ownership, usage rights, intellectual property, etc.) (Xiong et al., 2023).

Faced with the growth of the digital economy being hampered, the Chinese government has recognized that clearer and more effective rules on data flows and their use are needed to boost productivity potential (Mei, 2022). Establishing clear ownership of data is seen as a way to restore investor confidence and promote economic development in general and the CE in particular. The Chinese government is taking a two-step approach to legislating for data ownership. First, through a central government pilot policy; second, through amendments and supplements to national laws. Although legislation has been considered, the National People's Congress concluded that the conditions are not yet suitable because the data market is still evolving (Xiong et al., 2023).

Through three important legal documents: the 2020 Civil Code (2020 Civil Code), the 2021 Data Security Law (DSL 2021), and the 2021 Personal Information Protection Law (PIPL 2021), China has also demonstrated its data governance model as follows: on the part of individuals, they have the right to opt out, including refusing to allow businesses to use personal information and requesting deletion of information. However, individuals cannot make money from their own data. On the part of businesses, they have the ability to collect data from two main sources: individuals and the state. For personal data, businesses must have the consent of individuals to collect, process and use that information, in compliance with the provisions of law. On the part of the state, the state commits to ensuring the right to opt out of individuals. At the same time, the state also ensures that businesses can access the benefits from data, but under prescribed technical conditions (Camille, 2021). In addition, administrative sanctions are strictly applied to ensure compliance with the law, by directly affecting the profits of data subjects.

For cross-border data, Article 38 of China's Personal Information Protection Law 2021 sets out four important conditions: First, it requires data to be security-tested by the China Cybersecurity and Informatization Administration to ensure the safety of data transfer points. Second, it requires an information protection certificate issued by the above authority. Third, it requires data transfer to have a contract or written agreement on information security, but this is not clearly regulated. Fourth, although there are requirements on the conditions, there is no specific information on their content. The above model is new but not really progressive and does not facilitate the development of cross-border data.

In addition, in March 2023, the Central Committee of the Communist Party of China and the State Council announced plans to establish a state-level regulatory agency called the National Data Bureau (NDB), which will be managed by the National Development and Reform Commission (NDRC). The NDB is responsible for coordinating the integration, sharing, development, and use of data resources, and will coordinate the construction and promotion of China's digital economy. The following observations can be drawn from China's overall data policy: data subjects have rights to the data they create, including the right to access, copy, and delete data. China's data policy expands the scope of business activities through the use and commercialization of data. China strengthens the legality of data processing through laws and judicial actions, allowing data processors and controllers to create value from the collected data. The policies also support the development of data brokers, allowing them to make money by processing, valuing, and trading data in various trading platforms (Xiong et al, 2023). In short, China's data policies help them ensure domestic data accessibility while balancing privacy. At the same time, cross-border data development in China has not really developed.

4.2. EU data governance experience

In Europe, the key role of governments in building and developing data networks for the CE is established through appropriate incentives for data sharing from the outset, prioritizing the privacy and well-being of citizens. Since 2020, the EU has been implementing a series of targeted strategies related to the development of cross-border data networks for the CE.

In March 2020, the EU Industrial Strategy was adopted with the aim of making the EU a fairer and more prosperous society, while addressing the green transition and digitalization. Accordingly, it contributes to reducing the exposure of companies' trade secrets by forming and managing data trusts, alliances or collaborations along the value chain to aggregate private sector data for public sector decision-making. In particular, Data Alliances are alliances of organizations that contribute to research. And Eurostat is the EU's data authority on economic activity in general and holds the entire repository of CE indicators in particular, as well as various indicators related to the Sustainable Development Goals.

Based on the compliance commitments in the GDPR and the EU Data Act 2022, all members benefit from shared insights and new connections within the common community.

Table 3: GDPR regulations related to data

Aspect	GDPR regulations
Right to personal data	The GDPR confirms and updates a number of rights for individuals in relation to personal data, including: the right to access data (Article 15), the right to correct data (Article 16), the right to erase data (Article 17), the right to restrict data processing (Article 18), the right to data portability (Article 20) and the right to object (Article 21).
Data recording	The GDPR applies to all data processing activities in the EU, as well as to partners that enter the EU market through the offering of goods and services to individuals within the EU.
Data transmission	GDPR expands policies for sending data from the EU to third countries, while ensuring that cross-border data remains protected.

(Source: GDPR)

On the other hand, data collected to explore the CE can be deployed and create cross-border impact. Under the GDPR, cross-border data transfers are possible when three conditions are met: (1) The European Data Protection Commission makes an adequacy decision regarding the national data protection system on the basis of a series of clear criteria, such as the national law respecting fundamental rights. This is demonstrated by a decision by the European Commission (EC) on the basis of the adequacy of the data. The EC will decide whether the place to which the data is transferred is adequately regulated. Or a list of countries, regions or for a specific international organization that meet the requirements for the protection of personal data; (2) Establish and promulgate appropriate protection measures through company regulations, model contract terms or public agreements between state agencies in compliance with data protection regulations; (3) Develop and improve data protection laws based on public interests, based on consideration of international commitments of the country, region or international organization conducting commercial transactions. In addition, when allowing cross-border data transfers, EU countries will not automatically recognize and enforce judgments or decisions of a country other than the EU, unless the EU or an EU member state and that country have signed a mutual assistance agreement.

The provisions of the GDPR will support business activities in the CE operation chain. A concrete example of the application of the GDPR in the EU is the Global Standards Management Process (GSMP). This is a process that supports product traceability through common agreements on product naming and ways to allow product data sharing between all relevant entities, with a particular focus on resource-intensive industries, including: electronics and information technology, batteries and vehicles, packaging, plastics,

textiles, construction and engineering, food and water resources.

In addition, the EU has concluded bilateral agreements on data networks with a number of its trading partners. For example, the EU and the US have established a separate Privacy Shield Framework to facilitate the flow of data from the EU to the US. This will include actions to combat food fraud, including strengthening enforcement and investigation capacities at EU level.

5. Conclusion, some recommendations and limitations of the study

5.1. Conclusion

Establishing a data network not only helps the flow of data smoothly to where it is needed, but also helps promote the development of a CE through data operations that bring maximum efficiency to the circular supply chain. China and the EU are regions with a developed CE before Vietnam, so the experiences in building and implementing regulations related to data networks serving the national economy in general and the CE in particular will be a valuable source of documents that our country can learn from.

In general, Vietnam should have appropriate policies in accessing data in two scopes: domestic and international. Through the analysis of the experiences of China and the EU, some recommendations are summarized, bringing reference value to Vietnam in the coming time. In terms of policy, Vietnam needs to develop and improve a national legal framework on data governance for the circular economy. The transition to a circular economy model depends directly on the ability to trace, make transparent and share data on materials, products and waste streams in the supply chain. A solid legal framework will establish mandatory standards on data quality, clearly define the roles and responsibilities of stakeholders (from manufacturers to recyclers), and address issues of ownership, security and public-private data sharing mechanisms. This will create a reliable national data network, serving as a foundation for optimizing circular processes, attracting investment in digital technology and helping Vietnam achieve sustainable development goals.

5.2. Some recommendations

For individuals

Regarding domestic data accessibility, Vietnam can refer to China's experience in policy formulation and implementation. For example, the Chinese Government's data governance model shows the necessary regulations in harmonizing the right to access benefits from data of enterprises and ensuring the privacy of personal data. Individuals still enjoy certain rights to data they create in the CE, including: the right to access, the right to allow access, the right to copy, the right to delete data, the right to compensation for damages. Regarding the ability to access cross-border data transactions, our country should consider and learn from the EU's experience to build data policies in international trade. In addition to developing a legal framework for personal data protection, aspects related to the legality of data transfers and the establishment of data classifications to assess the risk level in circular global trade transactions need to be specifically regulated in national legislation. The GDPR will be a valuable reference framework for legislative activities.

For organizations and businesses

CE requires multinational companies to rely heavily on cross-border data flows for daily operations. More and more regulations are being introduced in international data protection to address the issue of data transmission. These include: OECD Privacy Principles, Convention 108 of the Council of Europe, APEC Cross-Border Privacy Regulation System, or in the content of new generation free trade agreements such as: Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), United States-Mexico-Canada Agreement (USMCA), etc. Therefore, the national data protection system should have a framework to evaluate clear criteria for cross-border data transmission, to help corporate data circulate in large quantities in almost all branches around the world, meeting internal tasks to operate smoothly.

On the other hand, the EU has established safeguards through standard contract clauses or public agreements between enforcement agencies based on codes of conduct, Vietnam can create model provisions on data clauses in commercial contracts, as well as codes of conduct related to data in international trade to avoid the risks of disputes arising in the future. In addition, industry and cross-industry leaders need to connect with each other to develop a common network and accelerate the implementation of circular practices by leveraging digital technology and data.

For the Government and agencies

To develop data for the CE, similar to the EU Industrial Strategy 2020, the Vietnamese Government has proposed a number of policies to promote the completion of the data network. Specifically: building a Vietnam energy data center according to the National Program on Energy Efficiency and Conservation for the period 2019-2030. At the same time, the strategy for building a data network to meet the National Action Plan on the CE (NAPCE) is also included in the national key project. In which, data on implementing the CE and integrating with the data information system of the Ministry of Natural Resources and Environment. However, the method of allowing the sharing of product data among all relevant entities has almost not been considered, for example, the Global Standards Management Process (GSMP). This will be an aspect that the Vietnamese Government should consider proposing to build in the upcoming sessions.

In addition, our country also needs a specialized unit/agency to manage and handle data. Typically, the National Data Bureau (NDB) of China or the EU Data Alliance is also a way to monitor and manage national data sources that Vietnam can access to propose models and learn implementation methods.

5.3. Limitations of the study

The study has some limitations. There is no data for quantitative analysis so far, so the scope of the study mainly comes from the assessment of legal regulations and national policies on data. In addition, the study only considers the selection of Chinese and EU models in the process of studying and analyzing data network governance. This may limit the research space. Future studies can expand the scope of research to developed countries such as the United States (US), Japan, the United Kingdom (UK), the Netherlands, etc. to make the topic more comprehensive and comprehensive.

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