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Sustainable Business Models in Non-Financial Reporting in Polish Practice

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Abstract:

Purpose: *The aim of the article is to identify information about the sustainable model of companies listed on the Warsaw Stock Exchange WIG 30, which prepare non-financial reports.*
Design/methodology/approach: *The content analysis of sustainable model disclosures in non-financial reporting was performed. The quality of disclosures was assessed based on reports published by 30 major and most liquid companies of the WIG 30 index of the Warsaw Stock Exchange (GPW). The content analysis of non-financial reports was conducted according to the following areas: value proposition, social aspects, environmental aspects, and governance aspects. The article uses the results of literature studies on the subject, the results of previous research, and observations of business practice in the area of sustainable business models disclosures in non-financial reporting.*
Findings: *The findings reveal a diverse approach of companies to disclose the information on sustainability of business model in Polish practice.*
Practical Implications: *The results of the study complement the research gap of current literature on sustainable business models by presenting the practice of disclosure on sustainable business model in Polish companies.*
Originality/Value: *The research presented in the article contributes to the current literature on sustainable business models disclosure by using the novel dataset, identifying the scope of disclosure on sustainability of business models, and is aimed at presenting a critical interpretative perspective.*

Keywords: *Sustainable business model, non-financial reporting, disclosure quality.*

JEL classification: *M40.*

Paper type: *A research study.*

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1. Introduction

Research on sustainable business models has been conducted for over a decade. Publications on sustainable business models emerge at the intersection of various thematic areas such as business models, innovation, sustainable development, corporate social responsibility, circular economy, sharing economy, entrepreneurship, social entrepreneurship, and others.

It can be said that sustainable business models constitute an independent research area (Lüdeke-Freund and Dembek, 2017, p. 1669; Lüdeke-Freund *et al.,* 2018, p. 145; Pedersen *et al.,* 2018; Bocken *et al.,* 2014; Stubbs and Cocklin, 2008).

The concept of sustainable business models is constantly undergoing transformation. The growing interest from theorists, practitioners, and various institutions may indicate that this is an important trend in seeking ways to engage business into active shaping a sustainable future.

The question arises regarding what a sustainable business model really is – is it merely a business model in line with environmental, social and governance (ESG) and corporate social responsibility (CSR) principles, or is it something more? How, then, can we determine whether an organization's business model is sustainable? Should we only check the extent of fulfilling ESG requirements, compliance with EU taxonomy, or should we look for disclosures directly indicating the fulfillment of tasks in the ESG scope? The growing interest in this subject clearly indicates a need for research in this field, making its development appear inevitable.

The article attempts to present fundamental concepts, assumptions, and definitions of sustainable business models, along with research findings in the area of sustainable business models disclosure in non-financial reporting. The article uses the results of literature studies on the subject, the results of previous research, and observations of business practice.

The content analysis of non-financial reports was assessed based on reports published by 30 major and most liquid companies of the WIG 30 index of the Warsaw Stock Exchange (GPW). These companies were selected because they have an advanced reporting method of environmental, social, and governance aspects, contributing to the sustainable business model. The quality assessment of disclosures was conducted according to the following areas: value proposition, social aspects, environmental aspects, and governance aspects.

2. Sustainable Business Models

The concept of a business model first appeared in the literature through the work of Bellman *et al.* in 1957. Three years later, Osterwalder used this concept in his article (Osterwalder *et al.,* 2010). However, the concept of a business model gained popularity only at the turn of the 20th and 21st centuries, coinciding with the rapid development of the digital economy. Many definitions of business models have been proposed so far, and their content and scope have evolved with the development of the concept.

Two business model concepts have gained popularity recently; the first being the Business Model Canvas (Osterwalder and Pigneur, 2009), and the second being the concept proposed by the International Integrated Reporting Council (IIRC 2013; Bek-Gaik and Surowiec, 2022). It should be noted, however, that on a theoretical level, a uniform, generally accepted definition of a business model, for example, in a standard or norm, has not been adopted.

The concept of the business model gained recognition through the publications of Chesbrough and Rosenbloom (2002) and Magretta (2002) (Schaltegger *et al.,* 2016, p. 4). Currently, it attracts significant interest, and the literature presents numerous different approaches to this concept and its definitions (Ojaghlou *et al.*, 2023). In a fundamental understanding, a business model embodies the organizational and financial architecture of a company (Teece, 2010, p. 173).

In other words, it is a holistic description of how the company conducts its business activities (Chesbrough, 2007; Magretta, 2002), and the usefulness of this concept arises mainly from the possibility of using it for describing and classifying businesses (Baden-Fuller and Morgan, 2010, p. 156; Cristea *et al.*, 2022; Pham *et al.,* 2022; Thalassinos *et al.,* 2022). Demil and Lecoq (2010) defined businees model as the way activities and resources are used to ensure sustainability and growth.

The diversity of approaches to defining the concept of a business model largely depends on the scientific discipline represented by the authors. The most popular approaches are described in management literature, and in recent years, with the dynamic development of non-financial information, the concept of a business model is also defined in the literature on accounting and finance. Determining the essence of a business model is not an easy task, given the various approaches researchers take to identify this concept.

The term business model gained significance in reporting at the time of the development of discussions about the importance of non-financial information in corporate reporting and assessing the achievements of a business entity. The business model was identified as one of the main topics for the future orientation of organizational reporting (IIRC, 2011; Jędrzejowska-Schiffauer *et al.,* 2019).

Treating the business model as an element of reporting reflects the view that one of the key aspects of analyzing a unit's activities by a potential investor should be its business model. With the emergence of CSR strategies, reporting on the business model has been enriched with disclosures about ESG issues. Considering the multitude of definitions and approaches to defining a sustainable business model, it seems to be a challenging task.

The two approaches to understanding the business model are distinguished in the literature in narrow and broad. In the narrow approach, the business model is understood as a way of generating revenue, while in the broad approach, it is seen as a way of creating and retaining value by the organization (Amit and Zott, 2001).

The authors assert that a business model is a specific method, a way by which the organization can generate revenue. These authors supplemented their definition, pointing to the business model as “the bundle of specific activities that are conducted to satisfy the perceived needs of the market, including the specification of the parties that conduct these activities" (Amit and Zot, 2010).

The authors also recognized several functions of the business model, including describing sources of value creation, planning sustainable value creation for all stakeholders, determining the business execution system, and focusing on interorganizational cooperation (Amit and Zott, 2001).

Generally, there is consensus that the business model is a unique configuration of strategies, processes, technologies, and ownership control over the organization. This configuration is created to generate value for customers and, consequently, compete effectively in a given market. Teece (2010) notes that a business model not only articulates the logic of and provides data and other evidence that demonstrates how firms create and deliver value to customers but also outlines the architecture of revenues, costs and profits associated with the firms delivering that value, how a firm delivers value to customers and converts payment into profits.

Afuaha (2014) stated that “business model is e framework or recipe for making money - for creating and capturing value”. One can say that the business model is a set of actions that an organization performs, the way in which it performs them, and the timing of their execution, using resources to offer benefits expected by customers in such a way that the entity achieves profit.

One of the most crucial concepts in discussions about business models is the concept of value. Through the concept of value Osterwalder and Pigneur define the business model. According to the authors “a business model describes the rationale of how an organization creates, delivers, and captures value, in economic, social, cultural, or other contexts" (Osterwalder and Pigneur, 2012, p. 18).

The concept of value is crucial in understanding and defining sustainable business models because it concerns their essence. The notion of value is what significantly connects the logic of a business model and a sustainable business model (Schaltegger *et al.*, 2016, p. 5).

The introduction of sustainable development into business practice has led to the search for new solutions in the logic of conducting business and the modification of existing business models, as well as the design and implementation of entirely new ones that can help sustain, limit negative, and/or create positive external effects for the natural environment and society (Schaltegger *et al.*, 2016, p. 4).

The adoption of the Directive of the European Parliament and of the Council (EU) 2022/2464 concerning sustainability introduced the obligation to disclose information about the business model. The new Directive 2022/2464/EU regarding corporate sustainability reporting (CSRD) require a brief description of the business model and business strategy of the entity.

This description should encompass the resilience of the business model and business strategy to risks related to sustainable development issues, opportunities emerging for the entity in connection with sustainable development matters, entity plans, information on how the business model and business strategy incorporate the interests of stakeholders, details on the implementation of the entity's strategy concerning sustainable development issues, and how the interests of stakeholders are taken into account in the implementation of the entity's strategy in relation to sustainable development matters.

The Directive aims to ensure the provision of reliable information by introducing a regulation that obliges business entities preparing ESG reports to subject them to independent audits and certification. This measure will elevate the significance of ESG reporting, contributing to the improvement of corporate reporting quality, enhancing comparability, and improving credibility.

Consequently, disclosures regarding the business model become particularly important in the realm of ESG reporting. Until now, business model disclosures have been present in various non-financial reports, especially in integrated reports, where guidelines for reporting the business model are outlined in the IR Framework. The proposed solutions in the IR Framework can assist in reporting the business model for ESG reporting purposes.

Sustainable business models are continuously evolving, still in the early stages of development. Attempts to define them appear in the literature (Stubbs and Cocklin, 2008; Schaltegger *et al.*, 2012; Bocken *et al.*, 2014; Boons and Lüdeke-Freund, 2013; Schaltegger *et al.*, 2016; Breuer *et al.*, 2018).

Academics and practitioners are increasingly discussing the relationship between business models, innovation, and sustainability (Bocken *et al.*, 2014; Boons *et al.*, 2013; Pedersen *et al.*, 2018; Wells, 2016). The most popular and interchangeably used terms for business models that strongly integrate social and environmental issues with business activities are “sustainable business models” and “business models for sustainability”.

Generally, the concept of sustainable business models is so broad that it encompasses many, if not all, approaches integrating social, environmental, and economic value with the business model (Moratis *et al.,* 2018, p. 7). One of the first innovative and comprehensive works on sustainable business models was the article by Stubbs and Cocklin in 2008. The authors defined sustainability business model as "a model where sustainability concepts shape the driving force of the firm and its decision making [so that] the dominant neoclassical model of the firm is transformed, rather than supplemented, by social and environmental priorities" (Stubbs and Cocklin, 2008, p. 103).

Garetti and Taisch (2012) state that sustainable business models "have a global market perspective, taking into account the development of new industrialised countries as well as the need for more sustainable products and services" (Garetti and Taisch, 2012, p. 88). Stubbs and Cocklin (2008) identified characteristic features of a sustainable business model, divided into four groups: economic, environmental, social, and holistic/multidimensional.

They defined a sustainable business model as an organization that achieves its purpose, mission, and/or vision by generating social, environmental, and economic outcomes. According to Stubbs and Cocklin, sustainable organizations must be profitable to exist, but their existence is not solely for profit. They emphasized that profit is a means to achieve sustainable outcomes (Stubbs and Cocklin, 2008, pp. 120-121).

Similar views on the concept of sustainable business models are shared by Abdelkafi and Tauscher (2016) "incorporate sustainability as an integral part of the company's value proposition and value creation logic. As such, [Business models for Sustainability] provide value to the customer and to the natural environment and/or society" (Abdelkafi and Tauscher, 2016, p. 75).

Sustainable business models should be understood as those that adapt the Triple Bottom Line (TBL) approach and consider a wide range of stakeholders and their needs, including the environment and society. Sustainable business models are important for implementing innovations for sustainable development and CSR, and furthermore, they help integrate it with business goals and processes, using it as a source of competitive advantage (Bocken *et al.,* 2014, p. 44).

In 2016, Dentchev and others stated that the primary goal of a sustainable business model is to address social and environmental issues, and thus, profit-making is not a dominant concern (Dentchev *et al.,* 2016). On the other hand, according to Moratis and co-authors, the idea of a sustainable business model stems from the concept of a business model in which the key elements involve creating, delivering, and capturing value (Moratis *et al.,* 2018, pp. 5-6).

Lüdeke-Freund *et al.* (2018) emphasize that the value proposition, which, in their opinion is the essence of a sustainable business model, should be appealing to both the enterprise's customers and all other stakeholders. These authors also emphasize the significance of the business activities' outcomes. According to the authors, the concept of a sustainable business model pertains to the creation of substantial positive effects while simultaneously significantly reducing negative impacts.

It seems that the concept of a sustainable business model captures the definition by Schaltegger, Hansen and Lüdeke-Freund (2026): "A business model for sustainability helps describing, analyzing, managing, and communicating (i) a company's sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries" (Schaltegger *et al.,* 2016, p. 6).

Boons and Lüdeke-Freund (2013) argue that the value proposition in a sustainable business model must be broader than in traditional models and should encompass measurable ecological and/or social value along with economic value. In this perspective, one of the key challenges is designing a business model that allows the company to capture value for itself by delivering social and environmental benefits (Schaltegger *et al.,* 2012). In other words, this means earning revenue through offering socially and environmentally beneficial products and services.

Based on existing literature, it can stated that sustainable business models represent an adaptation of the traditional business model concept, introducing specific characteristics and objectives. These definitions typically involve sustainability-focused concepts, principles, or goals, or embed sustainability into various aspects, such as the value proposition, activities related to value creation and delivery, and mechanisms for capturing value.

In summary, all authors emphasize the following characteristics of sustainable business models:

- Simultaneous generation of social and/or environmental results along with economic ones;
- Treating profit as a necessary element for the functioning of the enterprise, enabling the resolution of social and environmental issues;
- Creating significant positive social and/or environmental effects while simultaneously reducing negative impact on the natural environment and society;
- A sustainable and integrated way of creating and delivering value;
- The attractiveness of the value proposition for both the enterprise's customers and other stakeholders;
- Innovation within the sustainable business model;

- The existence of sustainable business models in various organizational and legal forms (Geissdoerfer *et al.*, 2018).

It is worth emphasizing the position of Melissen and Moratis (2016). The authors presented an interesting perspective on the evolution of the current approach to sustainable business models and the potential direction for the development of this concept. They proposed four generations of business models that integrate sustainable development goals with business strategy.

The first generation includes companies that redesign products and services, implementing various solutions in the circular economy, such as recycling, adopting a borrowing instead of buying approach, or engaging in the production and use of renewable energy. The second generation comprises businesses striving to implement the Triple Bottom Line concept and corporate social responsibility, yet their primary goal remains profit generation. The third generation involves business models designed to create not only financial value but also social and ecological value. The fourth generation of sustainable business models is based on collaboration with communities, social networks, other businesses, social movements, scientists, organizations, and policymakers. It requires the establishment of partnerships and infrastructure necessary to access resources and expert knowledge.

Breuer *et al.* (2018, p. 258) developed minimum guidelines that enable the establishment of sustainable business models and proposed a set of criteria that every initiative, process, or tool used within a sustainable business model should meet. Based on conducted research, the authors have defined and developed four guiding principles and four process-related criteria for sustainable business models. The guiding principles include (Breuer *et al.*, 2018, pp. 270-273):

- Sustainable development orientation in the purposes and values on which the venture is based. Sustainability-oriented innovation and business model development have to deal with normative aspects and need to include a values-based management approach;
- Extended value creation – generating value not only for the company, its customers, and shareholders but also creating material and immaterial value for both market and non-market stakeholders;
- System thinking – holistic treatment of the business model, considering aspects such as product life cycle, product-service systems (recognizing that economic, environmental, and social effects concern the entire system), reflection on impacts;
- Stakeholder integration – not just recognizing and adapting to stakeholders' expectations but adopting an approach that acknowledges the interdependence of stakeholders, understanding their expectations, interests,

and influence on the company's goal attainment, effective problem management, and ethical reflection in the sustainable domain.

The implementation of a sustainable business model in organizations involves caring for the social, environmental, and economic aspects of conducting business. Such a perception of business contributes to sustainable development and accelerates positive changes for the environment and society. A sustainable business model is based on four key elements: corporate social responsibility, responsible management; sustainable development; customer-centricity.

The discussion on sustainable business models involves various, often divergent interpretations of this concept. Consequently, several crucial questions can be posed from both a research and an applied perspective, necessitating further exploration, such as: when can it be asserted that a given business model is sustainable?; how should it be presented?; how to measure social and environmental outcomes?; what levels should business models reach to be considered as sustainable?; what criteria must fulfill the process of value creation and delivery? Consequently, when can a business model be deemed sustainable, and when not?

Summarizing, the key attributes of sustainable business models include:

– Goal and value orientation towards the achievement of sustainable development tasks;
– Creating value not only for customers but also for other market and non-market stakeholders;
– Holistic approach to business models, considering ecological and social aspects;
– Stakeholder integration to effectively meet their expectations and market challenges.

The concept of sustainable business models undergoes constant changes – both its theoretical frameworks and scope are evolving. However, the growing interest from theorists, practitioners, and various institutions may indicate that this is an important trend in the search for ways to more effectively integrate business into the policy of creating sustainable development.

3. Sustainable Business Model Reporting

An extremely important matter is communicating information about a sustainable business model. So far, this information has been found in non-financial reports such as CSR reports, management commentary, integrated reports, and others (Bek-Gaik and Surowiec, 2023).

An important aspect in evaluating whether a company's business model is sustainable is determining whether, in addition to economic elements, there are also social and environmental elements. Economic results alone are not sufficient to ensure sustainable value capturing because sustainable development pertains to collective goals (Morioka *et al.,* 2016, p. 661). In attempting to assess whether a given business model is sustainable, one should primarily evaluate the value proposition and whether sustainable development issues are incorporated into the business models.

Companies prepare a whole range of reports, following various guidelines, among which the following deserve attention:

- Guidelines developed by the International Integrated Reporting Council;
- Global Reporting Initiative standards, recognized as an international standard for reporting the economic, social, and environmental aspects of corporate functioning;
- ISO standards;
- ESG reports, which, in addition to disclosures of environmental and social activities, also encompass adherence to corporate governance standards;
- non-financial reporting principles of the Global Compact concerning human rights, employment, environment, and anti-corruption efforts.

There are also numerous legal norms conditioning non-financial disclosures, including:

- Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC, and Directive 2013/34/EU regarding corporate sustainability reporting, hereinafter referred to as the Corporate Sustainability Reporting Directive (CSRD); this directive expands the scope of the directive on the disclosure of non-financial information (Nonfinancial Disclosure Reporting Directive, NFRD) and introduces more detailed reporting requirements for companies covered by it;
- The CSRD directive also extends reporting obligations to all large companies (listed and unlisted), as well as small and medium-sized enterprises (SMEs) listed on regulated markets in the European Union (except for micro-enterprises) and indirectly to some companies outside the EU;
- CSRD companies will have to apply European Sustainability Reporting Standards (ESRS) to prepare sustainability disclosures, which will be subject to more rigorous attestation by accredited auditors;
- European Sustainability Reporting Standards (Commission Delegated Regulation (EU) 2023/2772) – the first set of standards was adopted in July 2023 and includes 12 sector-independent standards; sectoral standards and standards for SMEs and companies outside the EU are expected to be adopted in the future;

- Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector (SFDR);
- Regulation on the EU Taxonomy, or Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 establishing a framework to facilitate sustainable investment, applicable to companies covered by NFRD/CSRD and financial market participants offering financial products in the EU subject to SFDR;
- Recommendations of the Task Force on Climate-Related Financial Disclosures (TFCD); GRI Standards developed by the Global Sustainability Standards Board started operating in 2000 (originally as GRI guidelines).

It should be emphasized that companies have reporting obligations arising from the above regulations, and the Directive has introduced a number of changes. The Directive 2022/2464/EU introduced the requirement to present quantitative and qualitative information about the current and expected impact of risks and opportunities related to sustainable development on the financial position, financial performance, and cash flows of the organization. The usefulness of the reported information largely depends on the ability to demonstrate the financial effects of the environmental and social goals' implementation.

Directive 2022/2464/EU represents a significant change in corporate reporting, particularly in the area of sustainable development reporting. These changes include: including:

- Mandatory inclusion of sustainability reports into Annual Reports;
- Introduction of mandatory EU reporting standards for sustainable development, replacing the previous freedom of choice of standards;
- The requirement to include references to the Taxonomy regarding the data contained in sustainable development reports;
- Obligation to obtain attestations for reports concerning sustainable development.

In terms of presenting the business model, the company should outline its business model and business strategy in a way that enables stakeholders to understand whether its economic, social, and environmental goals are based on ethical values, considering climate change and environmental impact. Organizations should also disclose the impact of their activities on sustainable development throughout the entire value chain, the resilience of the business model and risks related sustainability strategy.

Undoubtedly, the requirements of Directive 2022/2464/EU will change the reporting system and will affect the scope of information disclosed to external parties. The question arises of how companies will cope with this challenge and limitation – to some extent – of complete freedom in presenting data.

4. Research Methodology

This study examines the sustainable business model disclosure practice of Polish companies to provide insight into the current state. It presents the results of qualitative assessments by employing content analysis using a Likert scale to examine the scope and quality of disclosures. The quality of disclosures was assessed based on reports published by 30 major and most liquid companies of the WIG 30 index of the Warsaw Stock Exchange (GPW).

The analysis was conducted based on the reports published for the year 2022 according to the following areas: value proposition, social aspects, environmental aspects, and governance aspects. To assess the quality of disclosures, a six-point Likert scale was adopted, where 5 is the highest rating and 0 means the element is absent in the content of the report. The detailed scoring system is as follows:

0 - element not present in the content
1 - element present, but poor description
2 - element present; description based on some quantitative information
3 -element present; balanced description of contents; average quantity of information
4 - element present; good and detailed description
5 - element included in the content, excellent description.

The research sample included annual reports, mainly the Management Commentary, but also integrated reports, ESG reports, sustainability reports. The list of companies and types of reports examined are presented in Table 1. Tables 2, 3 and 4 present scores of disclosures on four aspects of sustainable business model.

***Table 1**. The list of companies and types of reports included in the study*

Item	Company	Types of reports
1	Alior Bank SA	Report on non-financial information Management Board Report
2	Allegro.eu SA	ESG Report Annual Report: Management Board Report
3	Asseco Poland SA	Annual Report
4	Bank Millennium SA	ESG Report`
5	Bank Pekao SA	Annual Report: Management Board Report
6	Budimex SA	Integrated report
7	CCC SA	Sustainability Report
8	CD Projekt SA	Sustainability Report Annual Report: Management Board Report

9	Cyfrowy Polsat SA	Sustainable Development Report Annual Report
10	Dino Polska SA	Annual Report
11	Enea SA	ESG Report Annual Report: Management Board Report
12	Eurocash SA	Sustainability Report
13	Grupa Azoty SA	Integrated report Social and Environmental Annual Report
14	Grupa Kęty SA	Integrated Report
15	JSW SA	Integrated Report
16	KGHM Polska Miedź SA	Integrated Report
17	Kruk SA	Sustainability Report Directors' Report on the Operations Report of the Supervisory Board
18	LPP SA	Sustainability report Annual Report
19	LW Bogdanka SA	ESG Report
20	Orange Polska SA	Annual Report Integrated Report
21	Orlen SA	Integrated Report Non-financial Statement - Sustainability Report
22	PGE SA	Non-Financial Report on the activities Integrated Report
23	PKO BP SA	Annual Report
24	PZU SA	Annual Report Report on non-financial information
25	Pepco Group NV	Annual Report
26	Santander Bank Polska SA	ESG Report Annual Report
27	Tauron PE SA	Integrated Report Annual Report: Non-financial Statement, Management Board Report
28	Text SA	Management Board Report Annual Report Corporate documents
29	XTB DM SA	Annual Report
30	mBank SA	ESG Report Annual Report: Management Board Report on Performance

Source: *Own elaboration*.

As the first step in the study, value propositions were analyzed across such aspects, as: economic, ecological, social, and the division of economic costs and benefits among the entities participating in the creation of value. The value proposition in a sustainable business model does not only pertain to investors/shareholders but to all stakeholders, such as employees, suppliers, local communities, as well as the environment and society.

The study examined whether the company has found a way of conducting its economic activities that enables the generation of benefits for both the organization and other stakeholders, aiming to meet their needs in the long term.

An essential aspect of a sustainable business model is communicating the social and environmental impacts of its actions. Therefore, the study investigated the ecological actions taken by companies in the area of climate change, natural resources, pollution and waste management. The social impact analysis included: social relationships, diversity, employment, and human rights.

Subsequently, it was examined whether the company adheres to the principles of business ethics, taking into account following aspects: corporate governance, business ethics, and security and data protection.

In the assessment, the indicators taken into account were selected from a wide range of indicators proposed by Global Reporting Initiative (GRI). The disclosures were divided into three main groups, distinguishing between basic and industry-specific indicators.

4. Research Findings and Discussion

Despite many years of functioning and preparing non-financial reporting and the development of EU recommendations, the manner and scope of disclosing this data by the largest Polish listed companies are still highly diverse. In addition to non-financial reports, companies prepare a whole range of other information.

Some information is presented in additional corporate documents, and some companies are not obligated to present information regarding ESG (XTB DM SA). It can be said that companies, by disclosing information indicating that they have a sustainable business model, meaning that they operate in line with the concept of sustainable development, and by revealing information about ESG aspects, are creating their image as a sustainable business and socially engaged organization. Undoubtedly, this affects how companies are perceived by investors and other stakeholders.

Due to the fact that ESG issues encompass a range of aspects subject to evaluation by investors and other stakeholders, both from an internal perspective (how a company's operations impact people and the environment) and an external perspective (how ESG matters can influence a company's performance), it can be stated that the scope of reporting non-financial information in the social and environmental aspects is increasingly becoming a marketing tool for building a favorable organizational image.

The research clearly indicates that the presentation of value propositions in business models is impressive across virtually all companies (Table 2). Companies describe value propositions in the economic, environmental, and social spheres. Unfortunately, this declaration does not always find reflection in the actions that companies implement within their business models. It should be emphasized that most companies separately describe their sustainable development strategy as a priority in their business model.

Companies declare that their business model ensures financial growth through sustainable development and the creation of long-term value for all stakeholders in both the long and short term. Companies declare that they base their business model on sustainable values (e.g., socially responsible, team-oriented, etc.). The average rating in this aspect is very high and amounts to 4,76.

The next analyzed area was environmental aspect (Table 2), which was divided into 3 areas: climate change (greenhouse gas emissions, energy consumption, risks and opportunities related to climate, greenhouse gas intensity, emission management), natural resources (water consumption, water resource management, impact on biodiversity), and pollution and waste (waste management) in the implemented business model of organizations.

Information regarding the natural resources area is particularly relevant, especially in material-intensive industries, such as the heavy industry. Disclosures in this area concern the energy consumption, and water consumption. Both financial and, above all, non-financial information is presented, examples include descriptions of recycling or actions taken to reduce energy consumption.

Most evaluations were at a good level. Companies presented qualitative and quantitative indicators. Not all companies presented water resource management and waste management, especially banks, what is justified due to the nature of their activities. The average rating in this area is 2,47.

An important element in this part was the assessment of the scope of the company's actions in the climate area. Companies declared that in implementing their business model, they consider the following elements-models:

- Climate risk management in operations, the approach to managing climate-related issues,
- Challenges arising from climate change,
- Striving for climate neutrality,
- Plans for reducing greenhouse gas emissions,
- Emission indicators, goals, and an initial assessment of risks and opportunities arising from climate change,
- Green finance,
- Considering climate factors in business decisions,
- Developing a pro-climate product offering,

– Supporting climate-related innovations,
– Climate risks and opportunities.

It should be noted that information regarding climate-related issues is disclosed in various forms (monitoring and analyzing data related to energy consumption in order to plan its reduction, indicating a reduction in greenhouse gases, reducing the carbon footprint, and implementing good environmental practices including climate impact, such as reducing the use of air conditioning, energy-efficient buildings, and water conservation), but their content and scope are similar.

All examined companies emphasize the importance of climate-related issues in their strategies. They declare, to varying degrees, a reduction in their carbon footprint and achieving climate neutrality. They highlight the need for climate risk management, and some companies present examples of actions contributing to climate protection. Almost all companies provide information on the volume and structure of greenhouse gas emissions. Generally, companies extensively describe how they support educational initiatives and promote climate protection within the logic of their business operations. The average rating for climate change area is 3,93.

All companies provided extensive descriptions of social aspects (Table 3), dedicating separate sections to these aspects, such as employees, employment, human rights, etc. Presented in analyzed reports metrics and non-financial indicators characterizing social aspects, especially human capital, often differ in structure and level of detail. Basic information presented as social aspects includes types of employment contracts, employment structure, diversity, etc.

The majority of companies presented the gender pay gap indicator. Some companies disclosed data on relations with employees and freedom of association and collective bargaining (e.g., Bank Pekao SA), relations with partners (e.g., mBank SA), international organizations, local communities (e.g., PGE SA), suppliers, and customers (Cyfrowy Polsat SA). Generally, companies have a Diversity Policy, which includes:

– Creating a work environment open to diverse ways of thinking,
– Building organizational culture drawing from diversity,
– Providing employees with adequate conditions for development,
– Supporting the engagement of all employees,
– Enhancing the quality of human resource management in the company.

The declarative goal of all examined companies is to ensure that every employee has equal opportunities, is respected, and accepted. The discussed remuneration policy outlines the main directions and principles of shaping remuneration. Some companies discuss employee engagement and methods of measuring employee satisfaction. In the majority of companies, employee development is extensively covered. Companies presented the number of employees improving their professional qualifications, the average number of hours/days of training per employee, and the number/percentage of employees receiving regular performance evaluations. In the area of relations with employees and employees' freedom of association companies typically presented information about the number of meetings or other forms of communication with employees and the number of trade unions.

Quantitative data on various forms of communication between the employer and employees (direct contact as well as indirect contact through email and the intranet portal) were sporadically provided. Within the social aspect, companies also presented the protection of basic human rights, workplace rights, consumer rights, and due diligence procedures regarding human rights. Analyzed reports contained various disclosures related to occupational health and safety, as well as the organization of the work process from the moment of employment to the termination of employment.

Almost all companies extensively discussed accident prevention, indicating periodic employee training, various safety systems, audits, and strategies in this area. The companies presented indicators such as the number of workplace accidents, including the number of fatal accidents, and the number of recognized occupational diseases caused by exposing employees to harmful factors at work. Disclosures regarding the impact on the local community, including customers and suppliers, are mostly related to organizing the supply chain, as well as the impact of the company's goods and services on customers. The average rating in the social aspect is 3,79.

The next assessed aspect of the innovative business model for sustainable development focused on corporate governance (Table 4). Within this aspect, the analysis covered: governance (organizational structure of management bodies, audit committee structure, executive compensation, corporate governance risks), business ethics, safety and data protection (data protection policy). Information on corporate governance is generally extensive, resulting from both mandatory regulations and individual solutions applied in this area.

All companies extensively presented information on corporate governance – both in the reports, and in supplementary documents. Only a few companies indicated that managing corporate governance risk is of great importance in their business model. The average rating in the governance area is 4,04. The disclosures on business ethics covered ethical code, anti-corruption policy, mechanism for reporting violations, political impact. Disclosures regarding public policy-related impacts received the lowest score.

The next element of the sustainable business model is an anti-corruption policy and counteracting corruption. In this part, companies typically presented documentation outlining the principles and internal procedures applied by the company and its employees to counteract this phenomenon. For example, a code of ethics, principles of cooperation with contractors, and guidelines for employees. The average rating in the business ethics is 3,85.

It should be emphasized that the boundaries between individual elements of a sustainable business model are not rigid, and the division into value propositions, inputs, actions, and effects in the socio-environmental activities of companies is arbitrary. Moreover, the identified non-financial value propositions interact with each other, and specific effects of undertaken actions are achieved through the simultaneous execution of various activities, both of an environmental and social nature.

It should be noted that formulating conclusions is limited by a small research sample. However, taking into account that the examined companies belong to the WIG-30 index, it can be assumed that they are the most socially responsible group and also have an extensive reporting practice in fulfilling reporting obligations.

5. Conclusions

The article contributes to the discussion on what truly constitutes sustainable business models, what characteristics differentiate them from traditional business models, and whether it is possible to identify them at all. If so, how can stakeholders gather knowledge to assess whether a particular business model is sustainable or not? Undoubtedly, annual reports, including non-financial reports, are a fundamental source of information. However, questions arise about their reliability and whether the data presented therein are accurate and relevant.

Due to the lack of a clear definition of a sustainable business model and its elements, the multitude of definitions and the difficulty of unambiguously defining a business model, can lead to a diversity of communicated information in corporate reporting. This mainly concerns the varying levels of detail, inconsistent information structures, and the omission of important information depending on the reporting company's adopted definition and elements of the model.

In practice, this can be considered a hindrance to understanding the concept of a specific entity's business model based on disclosed information and determining whether it is a sustainable business model. While information describing activities and resources supports the explanation of the applied business model, it complicates stakeholders' understanding of the logic of creating and capturing value and does not reveal the relationships between these elements.

Based on the analysis conducted, the following conclusions can be formulated:

- Key sources of information on the sustainable business model include integrated reports, management commentary, and ESG reports,

- Disclosures regarding the sustainable business model are dispersed and presented in various non-financial reports and different sections of the annual report, including the management commentary, and the report on non-financial information (e.g., integrated report), which may result from the lack of uniform standards in this area,
- The scope of disclosed information related to sustainable business model is similar in the reports of individual companies; companies fulfill obligations included in the Directive of the European Parliament and of the Council (EU) 2022/2464 regarding corporate sustainability reporting,
- There is a need for the potential development of industry-specific or general guidelines that would facilitate companies in uniformly and harmoniously disclosing information related to the sustainable business model,
- Compliance with regulations – companies generally fulfill the obligations stemming from the regulation of the CSRD, indicating their commitment to adhering to standards regarding the disclosure of non-financial information.

It should be noted that almost all companies demonstrated compliance with the EU Taxonomy, estimated indicators related to the taxonomy goals of sustainable activities in the areas of climate change, adaptation, and mitigation.

Summarizing the previous considerations, it is necessary to propose a universal set of features for an innovative business model for sustainable development, understood as the pursuit of creating shared values. Regardless of the type of activity, size, or age of the enterprise, the following features of an innovative business model for sustainable development can be identified:

- Value proposition: In addition to economic value, it also presents measurable value in ecological and social aspects. It should result from a dialogue between business and society (or local communities), providing an optimal response to economic, environmental, and social challenges and needs that vary over time and space.
- Customer relationships are based on shaping responsibility towards customers. The company should seeks ways to raise customers' awareness regarding consumption choices that support local suppliers or the community.
- The company's value chain considers understanding mutual needs and problems, stimulating support and activation of suppliers, and influencing a change in the approach to traditional distribution and production methods through the use of new technologies (online sales, reuse of post-production materials, reducing raw material consumption).
- Human rights and shared values.
- Financially, there is a fair distribution of economic costs and benefits among the entities participating in value creation, which are part of the business model.

Summing up, the article attempted to examine how business practice understands and explains the concept of a sustainable business model in its reporting. Certainly, the Directive has influenced the scope and form of presenting information regarding the sustainable business model. An undeniable added value from its introduction is a certain organization of information related to the business model and presenting it in a form that may be easier to understand for stakeholders not specialized in accounting or management.

The recognition of whether an organization implements a sustainable business model is extremely important, and properly presented disclosures enable an assessment of performance and an understanding of the organization's value dynamics. Disclosures about the sustainable business model undoubtedly also contribute to increasing the substantive significance and reliability of non-financial information.

The conclusions from the conducted empirical research aimed at assessing the disclosures regarding the sustainable business model in the reports of selected companies listed on the Warsaw Stock Exchange have some limitations.

Firstly, the study was conducted on a small sample, which means that the obtained results and conclusions apply only to the analyzed companies.

Secondly, the selection of non-financial indicators used in the study, although in accordance with applicable standards, may have a subjective character.

Thirdly, in some non-financial reports, certain disclosures were fragmentary, making it difficult to unequivocally determine whether the entity provided significant information.

References to a variety of other corporate documents not forming part of the annual reports also posed a challenge. The analyzed area undoubtedly requires further analysis and may serve as a source of inspiration for future research on a much larger scale.

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