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BUSINESS MODELS IN A SUSTAINABLE ENTERPRISE: EXAMPLES FROM SELECTED EUROPEAN COUNTRIES

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ABSTRACT: Business models require the inclusion of sustainability to mitigate environmental and social impacts and to ensure long-term viability, fostering resilience in the face of global ecological challenges. By embracing sustainability, enterprises contribute to preserving the planet, attracting socially responsible clients and investors, and gaining a competitive edge. The objective of the paper is to analyse the sustainable aspects implemented in selected enterprises in eight European countries according to the established selection criteria. Qualitative analysis and interviews were the main research methods. The results revealed that enterprises are aware of the need to protect the planet, and that is why they implement various sustainable activities. The presented 'green' aspects of business models may offer inspirations for enterprises that wish to implement sustainable elements, or which are in the initial stages of doing so. The originality of the paper comes from the fact that there are no complex analyses on this aspect available in the literature.

KEYWORDS: business models, sustainability, sustainable enterprises

Introduction

In an era of escalating environmental and social challenges, sustainability has become a vital element of modern business strategy. Enterprises across Europe are increasingly adopting green practices to reduce their environmental footprint, enhance social responsibility, and ensure long-term viability. This paper presents a number of sustainable concepts implemented in eight selected European enterprises related to environmental, social, and economic elements. The following research questions were posed:

RQ1: Which sustainable elements can be observed in enterprises that adopt green practices?

RQ2: What is the positive impact of implementing sustainable elements in enterprises?

Europe's ambitious goal is to become the world's first climate-neutral continent by 2050 (Wolf et al., 2021). One of the key EU policies refers to national targets involving innovative changes applied by enterprises. One of the key competences to be implemented is entrepreneurship as each member state 'needs more new and thriving firms willing to reap the benefits of market opening and to embark on creative or innovative ventures for commercial exploitation on a larger scale' (Ahola & Honkanen, 2004). The European Parliament resolution states that 'in a fast changing, more globalised and digitised world, transversal and transferable skills such as social skills, intercultural skills, digital skills, problem solving, entrepreneurship and creative thinking are key' (A new skills agenda for Europe, 2016).

In recent years, more and more consumers have demanded eco-products, bio-foods, and environmentally friendly production processes (Reddy et al., 2023). Customers are willing to pay for sustainable products and services (Bhaduri, 2023); therefore, enterprises need to quickly adapt to these requirements and change their offers. In addition, the forthcoming introduction of green taxes forces enterprises to find sustainable solutions (Mpofu, 2022). Entrepreneurs need to develop innovative solutions to change their production processes (Somwethee et al., 2023), to identify suppliers of eco-friendly raw materials, to develop green channels for supply and delivery, and to gain recognition and classify their products and services as eco-friendly and sustainable. Some enterprises have implemented innovative ideas in their business model (BM) and offer environmentally friendly products and services. Unfortunately, many of these examples remain unknown, and entrepreneurs do not have easy access to examples of excellence in sustainable processes in their field. Moreover, the enterprise's BM is not always considered to be valuable and not enough attention is directed towards the possibility of introducing innovative aspects in it. It is therefore relevant for enterprises to evaluate the effectiveness of their ideas and to select the best methods of transforming their business into a sustainable one.

This paper first presents a review of the literature. This is followed by a discussion on the methodology adopted, the presentation of the results and a conclusion which includes the research limitations and some recommendations for future research.

Literature Review

Osterwalder and Pigneur's (2010) Business Model Canvas (BMC) is a widely recognised framework that outlines nine key elements of a business, providing a visualisation of its value creation and delivery. However, the BMC has faced criticism for lacking elements related to sustainability, such as the inclusion of green practices. BMs that focus on innovative green practices aim to enhance resource efficiency through longer product lifecycles, reuse, and recycling.

Different definitions of BMs highlight various aspects: Gassmann et al. (2013) view BMs as the 'magic' of a business's components, Teece (2018) describes them as frameworks for creating and capturing value, and Zott and Amit (2017) see them as systems of interconnected activities.

In today's globalised and competitive environment, businesses must address sustainability challenges and adapt to changing customer expectations. Traditional, static BMs often fail to consider these issues, which are crucial for addressing environmental and social concerns. Business Model Innovation (BMI) involves altering aspects of a BM, such as value offering, architecture, or revenue model, to incorporate new practices and technologies, potentially leading to significant market disruptions.

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Successful BMI can result in 'creative destruction', a concept introduced by Schumpeter (1950), which refers to the disruptive innovation that transforms markets and creates new opportunities. Examples include Amazon's online bookstore and Uber's ride-sharing service, which disrupted traditional industries through innovative approaches that reduced resource use.

Various tools and frameworks, such as the St. Gallen Business Model Navigator and the Business Model Pattern Database, have been developed to assist practitioners in using BMI effectively, offering databases of established patterns and taxonomies for innovation.

Some green BMCs are available online and in publications (Försterling et al., 2023; Kurek et al., 2023), but many existing models, such as Osterwalder and Pigneur's (2010) BMC, do not focus on sustainability. While some free canvases, like the Sustainable Business Model Canvas, include additional blocks for environmental and social costs and benefits, they often lack comprehensive coverage of all sustainability aspects.

Critics like Freudenreich et al. (2020) argue that the traditional BMC is insufficient for incorporating sustainability. They propose a 'Stakeholder Value Creation Framework for Business Model Analysis' instead. This emphasises the value created through stakeholder engagement and addresses the relationship between business and societal stakeholders. It outlines criteria for sustainable BMs, such as offering multiple value propositions and capturing economic value while maintaining natural, social, and economic capital. However, this framework does not provide a concrete methodology or canvas for implementing green practices.

Europe has been a leader in advancing green practices and sustainability, addressing climate change and sustainability through several key initiatives, these include:

1. *European Green Deal*: Launched in 2019, this policy framework aims for climate neutrality by 2050, focusing on clean energy, circular economy, biodiversity, and sustainable agriculture, with an emphasis on innovation and green technology investment.
2. *Renewable Energy Transition*: European countries have invested heavily in wind and solar energy. The EU targets generating 32% of its energy from renewables by 2030.
3. *Circular Economy Initiatives*: Europe promotes resource efficiency and waste reduction through recycling, reusing, and remanufacturing. The EU's Circular Economy Action Plan (2018) and the 2023 monitoring framework aim to minimise waste and promote sustainable production.
4. *Plastic Reduction and Ocean Protection*: The EU has banned single-use plastics and encourages alternatives to protect aquatic ecosystems and reduce water pollution.

These efforts position Europe as a model for other regions striving for sustainability. However, balancing green practices with economic development remains a challenge. Strategies to achieve this balance include transitioning to cleaner energy, adopting sustainable practices, investing in eco-friendly technologies, and fostering international collaboration to promote economic growth while protecting the environment.

The COVID-19 pandemic increased environmental awareness due to reduced transportation and industrial activity. Nevertheless, as restrictions were lifted, environmental concerns resurfaced, though younger generations remain motivated to support environmentally aligned enterprises. This demonstrates the urgency of adopting green practices and motivating enterprises to do so.

Despite the growing interest in sustainable BMs, research on sustainable elements within these frameworks has been limited. This study represents the first in-depth exploration of these elements on such a complex scale. As a pioneering effort, it aims to address a significant gap in the existing literature.

Research methods

The research aimed to investigate how standardised BMs are transformed into sustainable BMs. Eight European countries, Romania, Italy, Portugal, Poland, Malta, Greece, Austria and Switzerland, participated in the research. These countries participated in the ERASMUS+ project entitled *'Innovative entrepreneurs leading green businesses'* during the period October 2022-September 2024. The sample consisted of 65 leaders of enterprises from the aforementioned countries (n=65) that were known for the implementation of sustainable elements into their BMs. The selection criteria were the following: (1) geographical representation (enterprises were selected from eight different European

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countries to ensure geographical diversity and represent a variety of regional sustainability practices); (2) industry diversity (companies from different sectors were chosen to analyse how sustainability is implemented across various industries); (3) size of the enterprise (a mix of small, medium-sized, and large enterprises was included to compare sustainability strategies based on organizational capacity and resources); (4) sustainability engagement (enterprises that have publicly declared sustainability goals, or published sustainability reports, were prioritised; (5) willingness to participate (only those enterprises that agreed to participate in interviews and share relevant data were included in the study); (6) innovative practices (preference was given to enterprises known for innovative or exemplary sustainable practices that could provide valuable insights); (7) years of operation (enterprises with a minimum 5 years in operation were selected to ensure they have had time to implement and observe the impact of their sustainability strategies).

The methodology consisted of the following steps:

Step 1: Conducting in-depth interviews based on a previously prepared questionnaire. The questionnaire used in this study was developed based on a comprehensive review of the literature on sustainable business practices, with particular emphasis on environmental, social, and economic sustainability. It aimed to capture the most relevant aspects of sustainability that enterprises might adopt in their business models. To ensure the validity of the questionnaire, a pre-test was conducted with a small sample of representatives from a diverse set of enterprises to assess the clarity and relevance of the questions. This pilot testing helped identify any ambiguities or issues with question comprehension, leading to revisions to improve the overall structure and flow. The final version of the questionnaire was divided into three sections: environmental practices, social practices, and economic practices, aligning with the key themes of the research questions. The content validity of the questionnaire was further ensured by consulting with sustainability experts and professionals in the field. Their feedback helped refine the focus of the questions and confirm that they comprehensively covered the critical aspects of sustainability relevant to businesses. Additionally, the questionnaire included both closed and open-ended questions to allow for both quantitative and qualitative analysis. By combining these steps, the questionnaire was validated to ensure it accurately measured the sustainability practices in which enterprises were engaged, providing reliable data for the analysis. The questionnaire was a necessary tool for the research in order to analyse the final results from all the countries. The respondents came from enterprises of different sizes that declared that they included sustainable activities into the business operation. The interview was divided into three sections: environmental, social, and economical practices. Respondents were asked to provide examples of activities which are related to sustainability. Moreover, they responded about the positive impact they noticed after the inclusion of green practices.

Step 2: The collection of sustainable practices and activities from the interview data. The collection of sustainable practices and activities from the interview data was carried out in a systematic and structured manner to ensure the consistency and comprehensiveness of the information. During the interviews, the respondents were asked to provide examples of the sustainable practices they had implemented within their enterprises. These practices were categorised into three broad domains: environmental, social, and economic, corresponding to the sections of the interview guide. To capture a comprehensive range of sustainability activities, open-ended questions were used, allowing respondents to freely describe their actions without being constrained by predefined categories. This approach enabled the researchers to gather rich, detailed descriptions of the various sustainability efforts, providing both qualitative and quantitative insights. In addition, probing questions were used to delve deeper into specific examples of sustainability practices, asking respondents to elaborate on how these practices were integrated into the business operations and the perceived outcomes of their implementation. Following the interviews, the collected data were organised and categorised according to common themes. Thematic analysis was employed to identify recurring sustainable practices across the interviews. This involved grouping the practices into broader categories based on their similarities and relevance to the research questions. The practices were then further analysed to determine which were most frequently reported and to assess the impact of these practices as observed by the interviewees. In order to ensure completeness and accuracy in capturing the diverse range of sustainability activities, the research team conducted multiple rounds of data verification. Triangulation was used by cross-referencing interview responses with secondary data, such

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as sustainability reports and industry benchmarks, to verify the consistency of the practices described. Furthermore, to ensure that the analysis reflected a holistic view of the practices, the team engaged in member checking, where respondents were invited to review the categorised practices and provide feedback on whether the collected data accurately represented their experiences. This rigorous process of data collection and verification allowed for the identification of the most prominent sustainable practices implemented by the enterprises, and enabled the study to draw meaningful conclusions regarding the environmental, social, and economic impacts of these practices.

Step 3: The identification of sustainable elements that were observed the most often, and the positive impact of such activities. The interview data were analysed using qualitative content analysis. All responses were transcribed and systematically coded using a thematic approach. An initial round of open coding was conducted to identify recurring keywords and concepts related to environmental, social, and economic sustainability. These codes were then grouped into broader categories and themes, based on their frequency and relevance to the research questions. Thematic patterns were compared across countries to identify commonalities and differences in sustainable practices.

To ensure the validity and reliability of the findings, a process of triangulation was employed. Two independent researchers coded a subset of the interviews, and any discrepancies in the coding process were discussed and resolved to achieve consistency. Additionally, a member-checking procedure was conducted, where key stakeholders from the enterprises involved in the study were asked to review and validate the identified themes and interpretations. This approach helped enhance the credibility of the results and ensured that the analysis accurately reflected the perspectives of the respondents.

The coding process was carried out manually, with particular attention to maintaining consistency and traceability across all interview transcripts. This method allowed for the identification of the most frequently observed sustainable elements and their reported positive impacts, which formed the core findings of the study presented in Step 3.

To ensure the rigour of the qualitative research, several strategies were employed to address the key aspects of reliability, validity, and trustworthiness: (1) Reliability: to enhance the reliability of the findings, inter-coder reliability was ensured by having two independent researchers code a subset of the interview data. Discrepancies in coding were discussed and resolved through consensus to ensure consistent interpretation of the data. Furthermore, a codebook was developed and used to ensure that the coding process was systematic and repeatable. This helped maintain consistency in the categorisation of responses throughout the analysis; (2) Validity: content validity was ensured through the development of a questionnaire that was based on existing literature and validated by sustainability experts. A pre-test of the questionnaire was conducted to refine its clarity and relevance. The questions were designed to comprehensively cover the three key sustainability domains (environmental, social, and economic practices). To ensure construct validity, the responses from the interviews were cross-checked with existing theories and frameworks of sustainable business practices, including the Triple Bottom Line framework and Circular Economy models. This ensured that the data reflected the theoretical constructs being investigated; (3) Trustworthiness: the study followed Lincoln and Guba's criteria for establishing trustworthiness in qualitative research, which includes credibility, transferability, dependability, and confirmability; (4) Credibility was ensured by conducting member checks, where key stakeholders from the enterprises reviewed the results to verify the accuracy of the interpretations; (5) Transferability was addressed by providing a detailed description of the research context, methodology, and participant selection, enabling other researchers to assess whether the findings can be applicable to different settings; (6) Dependability was ensured by maintaining an audit trail of the research process, including the development of the questionnaire, data collection, and analysis methods, which allows the study to be replicated; (7) Confirmability was ensured by minimizing researcher bias through reflexivity, where the researchers regularly reflected on their own perspectives and assumptions, and how these might have influenced data collection and interpretation.

By employing these methods, the study aimed to ensure the reliability, validity, and trustworthiness of the findings, thus contributing to the rigour and robustness of the research.

This paper focuses mainly on Step 3.

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Results of the research

Transitioning from a standard BM to a sustainable one is crucial for several reasons. Firstly, it aligns with the growing societal and environmental consciousness, meeting the expectations of increasingly eco-conscious consumers. Secondly, it mitigates risks associated with climate change and resource depletion, ensuring long-term resilience and continuity. Moreover, adopting sustainable practices can lead to cost savings through efficiencies in resource usage and waste reduction. Additionally, it fosters innovation and competitiveness, as businesses adapt to changing market dynamics and regulatory environments. Overall, integrating sustainability into the BM is not just a moral imperative but also a strategic necessity for long-term success and viability in a rapidly changing world.

As for the *environmental elements*, the respondents indicated the following: reduced pollution, resource conservation, sustainable production methods, renewable energy, waste management and recycling, reduction in environmental footprint, mitigating hazardous materials, support for sustainable practices, efficiency improvements, and eco-friendly behaviour. The division between the countries is presented in Figure 1.

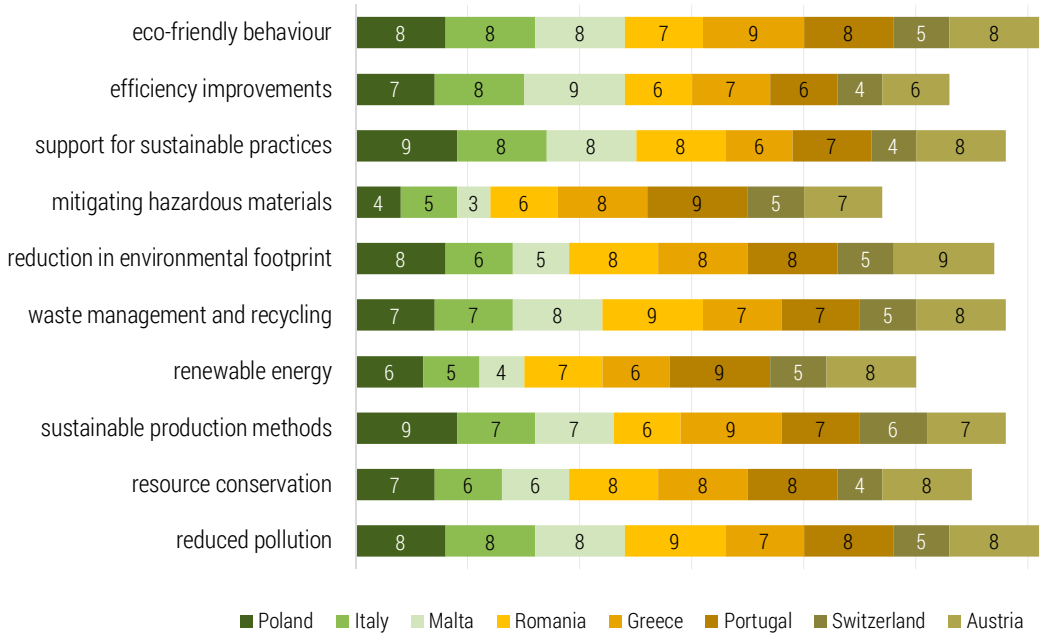

Figure 1. Environmental elements in sustainable BMs

The second phase was to identify the *social changes* related to sustainable BMs. They were: community engagement and awareness, employment and training opportunities, local economy sustainability, promotion of sustainable practices, reduction of environmental impact, encouraging sustainable lifestyles, support for social responsibility, empowerment through education, reducing environmental hazards, promotion of ethical practices, global campaigns and advocacy. The division between the countries is presented in Figure 2.

The last phase of the research concerned the economic aspects. The responses are presented in Figure 3.

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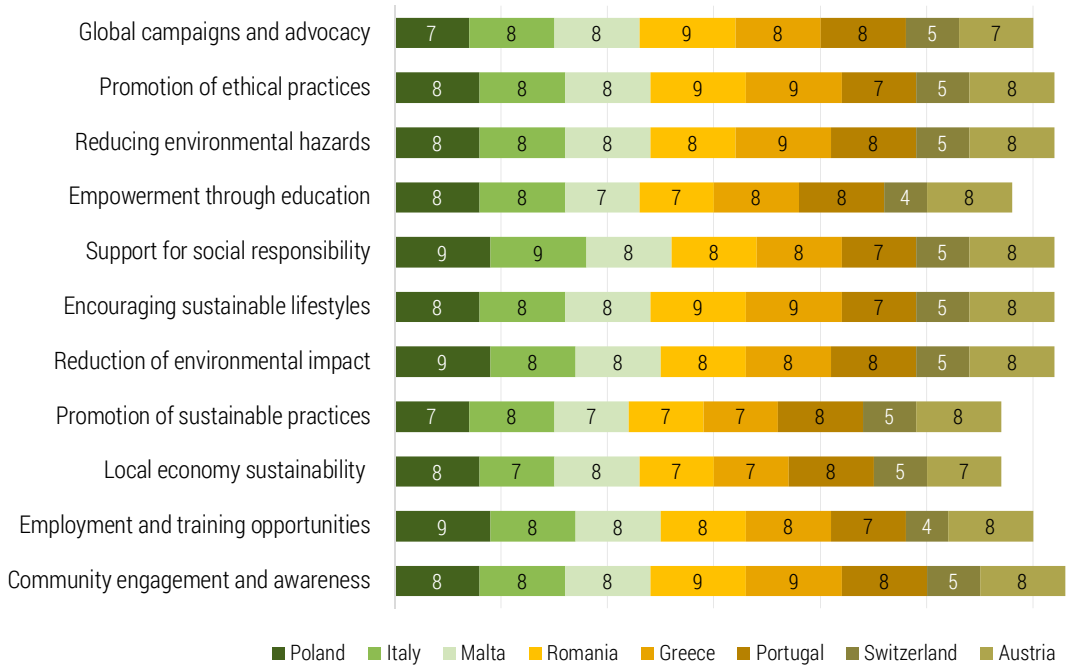

Figure 2. Social elements in sustainable BMs

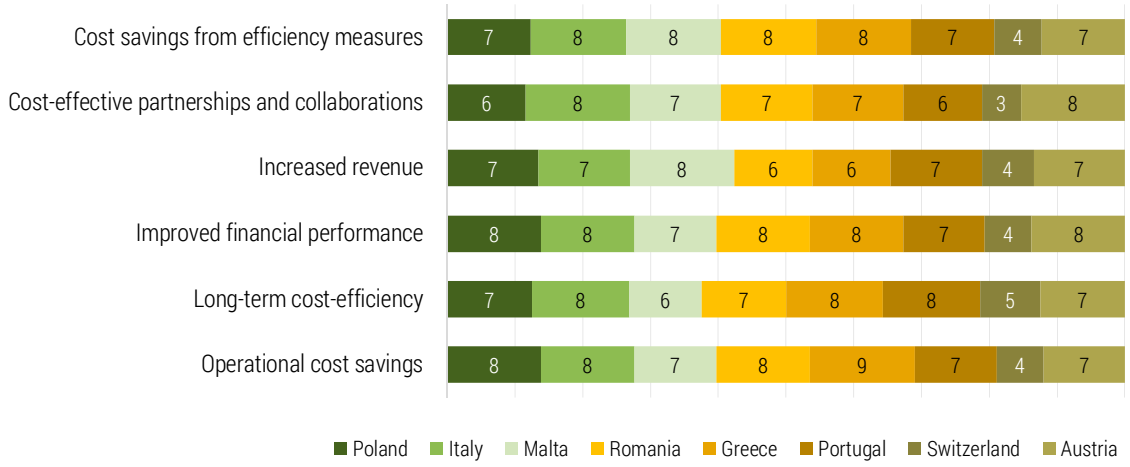

Figure 3. Economic elements in sustainable BMs

Transitioning from a standard business model (BM) to a sustainable one is crucial for several reasons. Firstly, it aligns with the growing societal and environmental consciousness, meeting the expectations of increasingly eco-conscious consumers. Secondly, it mitigates risks associated with climate change and resource depletion, ensuring long-term resilience and continuity. Moreover, adopting sustainable practices can lead to cost savings through efficiencies in resource usage and waste reduction. Additionally, it fosters innovation and competitiveness, as businesses adapt to changing market dynamics and regulatory environments. Overall, integrating sustainability into the BM is not just a moral imperative but also a strategic necessity for long-term success and viability in a rapidly changing world.

In response to RQ1 — which sustainable elements can be observed — the results revealed that enterprises incorporate a range of environmental practices, including reduced pollution, resource conservation, sustainable production methods, renewable energy use, waste management and recycling, reduction in environmental footprint, mitigation of hazardous materials, support for sustainability-oriented initiatives, efficiency improvements, and the promotion of eco-friendly behaviour.

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These findings reflect commonly discussed pillars of environmental sustainability in the literature, such as those proposed in the triple bottom line framework and the circular economy model, both emphasising efficiency, responsibility, and regeneration. The division between the countries is presented in Chart 1. To address RQ2 — concerning the positive impact — these environmental practices were perceived by respondents as contributing to both operational efficiency and improved brand reputation. In some cases, they also spurred innovation and opened new markets. However, the degree of implementation and its tangible benefits varied across countries, which may reflect national policy environments and the maturity of sustainability practices in each context.

Discussion

The respondents indicated the positive impact of implementing environmental elements in their BMs (Table 1).

Table 1. Environmental elements implemented in BMs in selected European companies

Environmental element	Positive impact on business
Reduced pollution	Alternative sustainable urban mobility solutions and the use of low-consumption vehicles helps to decrease traffic congestion and to lower air pollution levels.
Resource conservation	Providing online self-service reduces paper usage, postage, and delivery requirements, leading to reduced resource consumption and less waste generation.
Sustainable production methods	Sourcing local materials, adopting renewable or recycled materials, and utilizing waste through recycling encourages sustainable production practices, minimizing the use of non-renewable resources.
Renewable energy	Producing renewable energy via solar panels and wind turbines contributes to a cleaner energy mix and decreases reliance on fossil fuels, consequently reducing greenhouse gas emissions.
Waste management and recycling	Incorporating facilities for waste management, utilizing eco-friendly equipment, and promoting recycling programs helps to divert waste from landfills and reduces environmental pollution.
Reduction in environmental footprint	Using renewable resources, environmentally friendly amenities, and eco-friendly packaging helps to reduce environmental footprints related to resource extraction, waste generation, and energy consumption.
Mitigating hazardous materials	Hazardous materials are transformed into energy and the use of harmful substances is reduced.
Support for sustainable practices	Collaborating with partners complying with ethical and ecological standards, promoting organic farming, and adhering to green policies contributes to overall sustainability and supports environmentally friendly practices.
Efficiency improvements	Incorporating energy-saving systems, reducing water consumption, and utilizing digital technologies for processes and communication improves operational efficiency and decreases resource consumption.
Eco-friendly behavior	Encouraging the use of reusable containers, utensils, and eco-friendly products promotes sustainable consumption and reduces waste generation.
Education and awareness	Providing environmental protection training, promoting green initiatives, and creating awareness campaigns helps to educate stakeholders about environmental conservation and sustainability.
Preservation of natural resources	Extending the life cycle of materials, products, and machines, using water management systems, and reducing waste through recycling and reusing, aids in conserving natural resources and reducing environmental degradation.

Although the respondents indicated the positive impact of the activities which they introduced, they also identified several obstacles, which include the following:

'Implementing a recycling programe may require initial setup and additional resources such as training and organizing the disposal of materials. However the long-term benefits were worth the investment' (company from Poland).

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'Lack of financial liquidity, lack of support from public institutions and bodies, lack of a strong legislative framework for green transition' (company from Greece).

'The use of printers requires a lot of plastic (vinyl), which will be later discarded. And this plastic cannot be recycled due to it being painted/printed on' (company from Portugal).

The positive impact of the social elements is presented in Table 2.

Table 2. Social elements implemented in business models in selected European companies

Social element	Positive impact on business
Community engagement and awareness	Offering educational programs and supporting local green initiatives promotes community engagement and awareness about environmental issues. This fosters a sense of collective responsibility toward the environment.
Employment and training opportunities	Providing employment and training to individuals with limited prospects contributes to the economic development of localities. It supports the community by enhancing job opportunities and skill development, thereby improving livelihoods.
Local economy sustainability	Collaborating with local suppliers and partners to sustain the local economy reduces the carbon footprint and ensures that economic activities support local community development and well-being.
Promotion of sustainable practices	Collaborating with local producers who supply renewable, reused, or recycled materials promotes sustainable practices within the community and among partners.
Reduction of environmental impact	Focusing on reducing environmental impact and raising awareness in the community helps to improve the overall environmental quality of the locality, benefiting public health and well-being.
Encouraging sustainable lifestyles	Implementing eco-friendly practices, promoting the use of reusable products, offering discounts for returning recyclables, and producing environmentally friendly products encourages people to adopt more sustainable lifestyles.
Support for social responsibility	Providing support for social responsibility within the community fosters a sense of social cohesion, promoting a culture of care for the environment and the well-being of society.
Empowerment through education	Offering online educational materials and training related to green practices empowers individuals with knowledge and tools to make informed decisions about sustainability.
Reducing environmental hazards	Using sustainable materials, reducing waste, and ensuring proper waste management helps to reduce environmental hazards, thereby contributing to public safety and health.
Promotion of ethical practices	Encouraging ethical and ecological standards in partnerships and operations supports and promotes a culture of responsibility and ethical behavior within the community.
Global campaigns and advocacy	Initiating global campaigns against climate change and promoting green practices raises awareness and increases advocacy efforts for environmental sustainability, contributing to a more responsible global community.

'Community engagement and awareness' emerged as the easiest practice to implement in green BMs, which often focus on local environmental and social issues that directly impact the community. The enterprises typically prioritise transparency and communication, fostering trust and collaboration with the community. Additionally, their commitment to sustainability naturally aligns with the growing public interest in environmental responsibility, making it easier to involve the community in their initiatives.

Comparing the elements that emerged from the interviews, the social elements appear to be much easier to implement, when compared to environmental elements, because they are cheaper and simpler to put into practice.

As for the economic elements, the positive impact is presented in Table 3.

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Table 3. Economic elements implemented in BMs in selected European companies

Economic element	Positive impact on business
Operational cost savings	Reduced resource consumption: implementing green practices like reducing paper usage, adopting online platforms, and reusing materials leads to lower operational costs by cutting expenses on paper, printing, and physical deliveries. Energy efficiency: using energy-saving equipment and practices, such as implementing energy-efficient lighting and machinery, significantly reduces electricity bills and operational expenses. Waste management: efficient waste management practices, such as recycling, reusing materials, and implementing a closed-loop system, minimize waste disposal costs.
Long-term cost-efficiency	Investment in renewable energy: generating self-sustained renewable energy through solar panels, wind turbines, or other renewable sources reduces dependency on traditional energy sources, leading to long-term cost savings. Optimizing supply chain: collaborating with partners and suppliers who offer sustainable materials and adopting sustainable logistics creates more cost-efficient supply chains. Government grants and incentives: use of tax benefits, grants, or subsidies available for green initiatives provides financial support and reduces overall operational costs.
Improved financial performance	Improved efficiency and productivity: green practices often lead to improved productivity and efficiency, boosting the financial performance of the company.
Increased revenue	Market demand and brand loyalty: offering environmentally friendly products or services attracts environmentally conscious consumers who are willing to pay more for ethically produced goods, potentially increasing sales and revenue. Expanded customer base: diversifying product lines to include sustainable options attracts new customers, expanding the customer base and increasing revenue streams.
Cost-effective partnerships and collaborations	Efficient partnerships: partnering with green-conscious firms, utilizing local suppliers, and collaborating with businesses for waste management leads to cost-effective solutions through shared resources and reduced operational expenses. Reduced marketing costs: leveraging green initiatives for marketing purposes improves brand perception, potentially reducing marketing expenses by increasing brand loyalty.
Cost savings from efficiency measures	Efficient resource use: implementing measures such as water-saving practices, reducing packaging waste, and adopting energy-efficient machinery leads to cost savings through more efficient resource utilization. Operational efficiency: shifting operations online, utilizing digital tools, and using open-source software streamlines operations and reduces costs.

Operational cost savings are crucial in green BMs because they help to balance the often higher initial investments in sustainable technologies and practices. By reducing energy, water, and resource consumption, green businesses reduce their long-term expenses, making their BM financially viable and competitive. These savings also allow for reinvestment in further sustainability initiatives, driving continuous improvement and innovation.

Conclusions

Transforming standard BMs into green or sustainable BMs is crucial for addressing the growing environmental and social challenges the world faces today. As resources become scarcer and the impacts of climate change intensify, enterprises that retain traditional practices risk becoming obsolete or facing regulatory and market penalties. Green BMs promote long-term viability by reducing reliance on finite resources and minimising environmental impact, which also allows enterprises to meet evolving regulatory standards and consumer demands.

Additionally, sustainable BMs enhance brand reputation and attract customers who prioritise ethical and eco-friendly practices, leading to increased market share. They also drive innovation by encouraging the development of new products, services, and processes that are both profitable and environmentally responsible. In the long run, enterprises that embrace sustainability are better positioned to thrive in a future where environmental and social considerations are increasingly central to economic success.

The limitations of this research primarily stem from the fact that it is based on a limited number of examples, which may not fully capture the diversity and complexity of the broader context. While

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these examples provide valuable insights, they may not be generalisable to all situations or industries. Future research could expand upon this work by incorporating a larger and more varied sample of examples, allowing for a more comprehensive understanding of the subject matter.

The contribution of the authors

Literature review, S.D.; research methods, L.W.; research results, L.W.; discussion and conclusions, S.D., and L.W.

The authors have read and agreed to the published version of the manuscript.

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References

Ahola, S., & Honkanen, V. (2004, September 15). Entrepreneurship education in Finnish polytechnics. Public private co-operation or business to business relationships? *17th Annual CHER Conference,* Enschede, Netherlands, 1-27. https://www.utu.fi/sites/default/files/public%3A//media/file/CHER2004paper.pdf

Bhaduri, S. (2023, September 15). *Shocking Stats! Why 66% of Consumers Will Pay MORE for Your Green Brand!* https://medium.com/@sameer-aidasinc/shocking-stats-why-66-of-consumers-will-pay-more-for-your-green-brand-b3a274ac1825

Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment, Pub. L. No. 32019L0904, 155 OJ L (2019). https://eur-lex.europa.eu/eli/dir/2019/904/oj/eng

European Commission. (2016). *A New Skills Agenda for Europe*. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0381

European Commission. (2024). *8th EAP mid-term review confirms 2030 climate & environmental targets within reach.* https://environment.ec.europa.eu/news/eu-2030-climate-and-environmental-targets-within-reach-2024-03-13_en

European Commission. (2024, September 10). *The European Green Deal: Striving to be the first climate-neutral continent.* https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

Försterling, G., Orth, R., & Gellert, B. (2023). Transition to a Circular Economy in Europe through New Business Models: Barriers, Drivers, and Policy Making. Sustainability, 15(10), 8212. https://doi.org/10.3390/su15108212

Freudenreich, B., Lüdeke-Freund, F., & Schaltegger, S. (2020). A Stakeholder Theory Perspective on Business Models: Value Creation for Sustainability. Journal of Business Ethics, 166, 3-18. https://doi.org/10.1007/s10551-019-04112-z

Gassmann, O., Frankenberger, K., & Csik, M. (2013). *The St. Gallen business model navigator*. University of St. Gallen. https://wackwork.de/wp-content/uploads/2017/11/St-Gallen-Business-Model-Innovation-Paper.pdf

Kurek, J., Brandli, L. L., Leite Frandoloso, M. A., Lange Salvia, A., & Mazutti, J. (2023). Sustainable Business Models Innovation and Design Thinking: A Bibliometric Analysis and Systematic Review of Literature. Sustainability, 15(2), 988. https://doi.org/10.3390/su15020988

Mpofu, F. Y. (2022). Green Taxes in Africa: Opportunities and Challenges for Environmental Protection, Sustainability, and the Attainment of Sustainable Development Goals. Sustainability, 14(16), 10239. https://doi.org/10.3390/su141610239

Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: a handbook for visionaries, game changers, and challengers.* New York: John Wiley & Sons.

Reddy, K. P., Chandu, V., Srilakshmi, S., Thagaram, E., Sahyaja, Ch., & Osei, B. (2023). Consumers perception on green marketing towards eco-friendly fast moving consumer goods. International Journal of Engineering Business Management, 15. https://doi.org/10.1177/18479790231170962

Schumpeter, J. A. (1950). *Capitalism, Socialism and Dernocracy.* New York: Harper-Collins.

Somwethee, P., Aujirapongpan, S., & Ru-Zhue, J. (2023). The influence of entrepreneurial capability and innovation capability on sustainable organization performance: Evidence of community enterprise in Thailand.

Journal of Open Innovation: Technology, Market, and Complexity, 9(2), https://doi.org/10.1016/j.joitmc.2023.100082

Teece, D. J. (2018). Business models and dynamic capabilities. Long Range Planning, 51(1), 40-49. https://doi.org/10.1016/j.lrp.2017.06.007

Wolf, S., Teitge, J., Mielke, J., Schutze, F., & Jaeger, C. (2021). The European Green Deal – More Than Climate Neutrality. Environmental Policy, 56(2), 99-107. https://doi.org/10.1007/s10272-021-0963-z

Zott, C., & Amit, R. (2017). Business model innovation: How to create value in a digital world. GfK Marketing Intelligence Review, 9(1), 18-23. https://doi.org/10.1515/gfkmir-2017-0003

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MODELE BIZNESOWE W ZRÓWNOWAŻONYM PRZEDSIĘBIORSTWIE – PRZYKŁADY Z WYBRANYCH KRAJÓW EUROPEJSKICH

STRESZCZENIE: Modele biznesowe opracowane przez przedsiębiorstwa wymagają włączenia elementów zrównoważonego rozwoju w celu łagodzenia zmian klimatycznych oraz zapewnienia długoterminowej rentowności przedsiębiorstwa, wspierając jego odporność w obliczu globalnych wyzwań ekologicznych. Uwzględniając elementy zrównoważonego rozwoju, przedsiębiorstwa przyczyniają się do ochrony planety, przyciągania społecznie odpowiedzialnych klientów i inwestorów oraz zdobywania przewagi konkurencyjnej. Celem artykułu jest analiza aspektów zrównoważonego rozwoju wdrożonych w wybranych przedsiębiorstwach w ośmiu krajach europejskich zgodnie ze wskazanymi kryteriami wyboru. Głównymi metodami badawczymi były analiza jakościowa i wywiady. Wyniki pokazują, że przedsiębiorstwa są świadome potrzeby ochrony planety, dlatego wdrażają różne zrównoważone działania. Przedstawione „zielone" aspekty modeli biznesowych mogą stanowić inspirację dla przedsiębiorstw, które chcą wdrożyć elementy zrównoważonego rozwoju lub są na początkowym etapie ich realizacji. Oryginalność artykułu wynika z faktu, że w literaturze brak jest kompleksowych analiz dotyczących tego aspektu.

SŁOWA KLUCZOWE: model biznesowy, zrównoważony rozwój, zrównoważone przedsiębiorstwo