Exploring sustainable trends in social media: an analysis for business decision making.[1]

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Sustainability is built on three pillars: economic, environmental, and social, which allow for sustainable development in a variety of sectors without jeopardizing future generations. To ensure this sustainable development, the international community created goals in 2015 through the UN Agenda 2030, which includes seventeen sustainable development goals (SDG) that are currently the focus of numerous decision-making processes aimed at promoting sustainability (European Commission, 2024).

Because of the goals set in recent years, the issue of sustainability has become a serious concern for both society and corporations. In this new approach, sustainable development is frequently internalized as a method of addressing societal needs (Kolk, 2016). The commercial, individual, and corporate sectors have all prioritized sustainable development goals. It is worth noting that it has grown in significance in a variety of ways, including metrics that reflect variations in the consequences of climate change, natural resource scarcity, soil degradation, river pollution, and greenhouse gas emissions.

Given this scenario, the European Union (EU) is spearheading efforts to promote international cooperation in climate change, clean energy, and emissions trading. One significant example is the European Green Deal, commonly known as the "Green Deal," which was launched in 2020 with the ambitious goal of achieving carbon neutrality in the EU by 2050 and promoting more sustainable economic growth. "To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy" (European Commission, 2024).

In addition to global challenges, environmental hazards such as water scarcity and climate change develop as common topics among numerous countries, becoming an intrinsic component of political, commercial, and governmental debate (Li et al., 2020). In some ways, the emphasis on environmental issues has put pressure on businesses, prompting them to take a stance on environmental responsibility.

On one hand, there's the notion that corporate sustainability practices contribute to cost reduction and mitigating environmental risks, thereby fostering wealth creation. On the other hand, these practices assist companies in meeting the preferences of customers and partners, as highlighted by (Miroshnychenko and Massis, 2022), ensuring adherence to the three pillars of sustainability and thus complying with global sustainability indicators.

Social media emerges as the most effective approach for discerning patterns in these variables. Within this context, social media platforms serve as primary sources of sustainability information and perspectives, providing a platform for individuals to voice their concerns, share knowledge, and participate in discussions on environmental and social issues. This aligns with a landscape where societal attitudes and values are undergoing significant shifts, directly impacting conversations surrounding sustainable development (Li et al., 2020), highlighting the pivotal role of social media. The

platform not only reflects prevailing trends and concerns in public opinion but also actively shapes collective perceptions and awareness regarding sustainability. Furthermore, they influence trends that affect sustainability management and business decisions.

The scenario of this study is situated in a time when organizations are continuously seeking methods to ensure that their production processes achieve a balance among environmental, social, and business aspects. With this objective in mind, the purpose of this article is to explore sustainability trends in social media, particularly focusing on public opinion, and to assess how these trends may impact the decisions of corporate managers and other stakeholders in business, commerce, and politics. To achieve this goal, the study aims to analyze data extracted from social media, with a specific emphasis on public sentiment concerning sustainability, in order to reflect on recent sustainability trends.

The case study utilizes data mining tools, specifically Python, for gathering and analyzing data related to the keyword "sustainability" across various digital platforms. After collecting, cleaning, and analyzing sustainability trends, a systematic mapping evaluation was conducted by identifying three prominent recurring sustainability themes from social media posts. Through this approach, it becomes possible to offer insights that can assist managers in making informed business decisions, enabling them to align their objectives with societal expectations and ideals concerning sustainability.

The paper relies on two theories to support the reflective search for this work. The first is that changes in sustainability trends on social media mirror shifts in public perceptions of environmental, social, and political challenges. The second is based on the fact that companies that actively respond to sustainability trends on social media have higher brand value and consumer preference.

As a result, the outcomes of this study provide insights for firm managers about what information channels have been working on in recent months to enhance organizational improvement capabilities to accomplish sustainability goals. According to studies, strengthening sustainability has been one of the problems encountered by businesses and sectors in recent years, requiring investments, organizational commitment, change, and strategy (Gomes and Sarkis, 2020). As a result, based on the notion that social media contributes to trends and the building of reality, they have become key tools for mining trends and disseminating information regarding sustainability. With this perspective in mind, the work attempts to help business managers make decisions by allowing them to adopt measures or incentives that affect the company's added value based on public opinion via social media trends.

In certain ways, it should be noted that the concept of sustainable development has remained the focus of discussion, leading to the concept of Corporate Social Responsibility (CSR) (Lu et al., 2019). Furthermore, the study's findings have important consequences for corporate management. Companies that watch and understand sustainability trends on social media can uncover chances for innovation, improve their reputation, and become more relevant to consumers concerned about environmental and social issues. Companies can reduce risks and gain a competitive advantage in the ever-changing marketplace by aligning their corporate strategy and practices with society's sustainability expectations.

In conclusion, this study emphasizes the importance of using data mining techniques, such as Python, to investigate sustainability trends across digital platforms. Valuable insights emerge from the methodical mapping and analysis of recurring themes in social media posts, assisting managers in aligning their corporate strategy with increasing society expectations surrounding sustainability. Understanding and responding to these

sustainability trends can help firms traverse the intricacies of today's linked world, not only improving corporate decision-making but also encouraging a more sustainable and socially responsible approach to company activities. As a result, by leveraging the power of data and technology, businesses may effectively bridge the gap between their goals and broader social needs for a sustainable future.

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