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Sustainability Reporting: Examining the Community Impact of the S&P500 Companies

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Abstract: In recent decades, sustainability reporting has received increasing business and academic attention. However, the management literature is limited regarding recent trends in the issues disclosed in these reports. In this era of multiple socio-economic crises (e.g., the global energy crisis, the Russo–Ukrainian war, and the COVID-19 pandemic), large companies have an even greater responsibility to the communities in which they operate. Given the above, the aim of this study was to examine recent sustainability reports and identify issues related to community impact. Specifically, the sustainability reports of S&P500 companies were analyzed using the Structural Topic Model in R. The results showed that the most common topics in sustainability disclosures related to community impact were "donations" and "STEM education". Although "donations" as a topic was expected, "STEM education" emerged to highlight the importance of technology in today's business world. These findings have important managerial and theoretical implications for sustainability reporting.

Keywords: sustainability reporting; community impact; social sustainability; S&P500; STEM education; donations

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1. Introduction

In recent years, there has been an increased number of companies communicating their sustainability performance and practices through reporting [1]. As stakeholders have become more demanding, they expect from companies and entrepreneurs a diverse range of actions regarding the three pillars of sustainable development: environment, society, and economy [2]. Except for stakeholder demand, laws and regulations force companies to disclose not only their financial information but also their practices concerning social and environmental capital [3]. As a result, sustainability reporting attracts increasing interest in the academic and business world.

For decades, companies had the notion that their sole responsibility was to maximize their economic profits [4]. Carroll [5] introduced a CSR framework including not only the economic and legal responsibilities of businesses but also the obligations they have from an ethical and philanthropic perspective. Thus, the first attempt at sustainability reporting was focused mainly on the social aspect of sustainability, while after the report by the World Commission on Environment and Development: "Our Common Future" [6], companies switched their focus and emphasized mainly environmental issues in their reports. However, in the last three decades, companies have followed Elkington's [7] triple-bottom line (TBL) framework and addressed the three dimensions of sustainability (economic, social, and environmental).

Based on the evolution of sustainability reporting, different types of reports have been developed, such as sustainability reports, corporate social responsibility (CSR) reports,

and environmental, social, and governance (ESG) reports. However, these reports serve the same purpose: to communicate sustainability practices [8]. These practices are of utmost importance, especially in this period of multiple crises [9], including, for example, COVID-19, the Russo–Ukrainian war, and the global energy crisis. Crises, such as the pandemic, are forcing companies to reassess their responsibilities and their commitment to sustainable development [10]. Companies should play an active and supportive role in the communities in which they operate [11] and disclose their contribution to society. In addition, large companies not only have the capacity and the resources to implement sustainability practices [12,13] and significantly impact communities, but they can also serve as reference points for other companies. Given the above, the main questions are: (i) what are the current trends in sustainability reporting and (ii) what kind of support do large companies provide to communities?

Previous research has focused on the significance of sustainability reporting [14], the incorporation of reporting into business practices [15], sustainability reporting tools [8], and the driving forces for sustainability reporting [16]. Although there are studies that identify trends in sustainability reporting, most of them are limited to a specific industry. For instance, Perez and Sanchez [17] study the mining sector, Fonseca et al. [18] explore sustainability reporting in universities, and Khan et al. [19] study commercial banks. Moreover, many of the studies on sustainability reporting focus on the environmental dimension of sustainable development [20,21]. However, given that social issues are paramount in this time of socio-economic crises, more research is needed on the social dimension of sustainable development.

Finally, although the main methodological approach of the previous studies is a content analysis of sustainability reports [22,23], the literature lacks studies that analyze reports using the Structural Topic Model in R, a tool released in 2019. The main advantage of this method is that it uses statistical techniques to interpret textual data and metadata to identify the main topics present. In addition, this novel approach allows us to examine hundreds of reports, while many previous studies were limited only to a few dozen reports [17,24].

In light of the above, the aim of this study is to examine the sustainability reports of large companies and analyze their support with respect to communities. In particular, we use the Structural Topic Model in R methodology to explore the sustainability reports of companies in the S&P500 Index and identify the main topics of discussion regarding their contribution at the societal level. The study contributes to the sustainability literature by exploring current trends in sustainability reporting by examining companies from a wide range of sectors using an R package developed over the last few years.

The paper is structured as follows. Section 2 reviews relevant studies on sustainable development and sustainability reporting. In Section 3, we describe our methodology using the Structural Topic Model. Section 4 presents the findings, while Section 5 discusses the results. Section 6 provides our concluding remarks, while the Section 7 presents the limitations of this study and suggestions for future research.

2. Literature Review

In recent years, sustainable development has evolved into an important aspect of a firm's strategy. Sustainable growth is vital in business activity and relates to three dimensions: environment, social, and governance (ESG). Sustainable rules point out alternative ways to explore natural resources to satisfy the needs of societies while allowing firms to have uninterrupted development. The importance of studying the relationship between the three dimensions of sustainable development and business activity is highlighted in several initiatives the United Nations took on sustainable growth. In its 2030 Agenda for Sustainable Development [25], the realization of the 17 Sustainable Development Goals (SDGs) was identified as the ultimate target. The definition of sustainable development has been strengthened and diffused across the globe by the United Nations [26] and other major organizations (ECB, Federal Reserve System, among others).

According to the relevant literature, environmental (E), social (S), and governance (G) factors can be considered important determinants that affect the sustainable development of businesses, especially decision-making and investment analysis [9,27–29]. This increased attention by policymakers has also driven an increasing number of institutional and individual investors to incorporate ESG factors into their selection process or even invest in ESG funds [30,31]. Although much attention has been given to the analysis of the environmental and economic dimensions of sustainable growth, less attention has been given to the social dimension of sustainability [32,33].

Regarding the social aspect of sustainability, Bowen [34] first defines the concept of how businesses can be socially responsible, and according to recent studies, an ESG index is examined based on investments, focusing on how ESG factors can contribute to responsible investing [35–37]. Further to the investment sector, other scholars examine the relationship between ESG factors in socially responsible investment (SRI). According to Widyawati [38], ESG metrics are important for sustainability performance; however, limited transparency and convergence suggest that these metrics may not be totally reliable [39,40].

In addition, ESG is used for measuring the sustainability performance of businesses. According to Drempetic et al. [41], there is a positive correlation between a firm's impact and the available ESG resources. In emerging economies, a positive correlation between ESG performance and investment efficiency is also verified by Al-Hiyari et al. [42]. Further to this argument, the (E) environmental, (S) social, and (G) governance factors interact with each other, affecting the sustainable development of businesses [9]. Ziolo et al. [43] examine the interaction of ESG factors in the decision-making process and other scholars have found that a better ESG performance increases the firm value [44–46], while environment (E) empowers financing with the appropriate strategy of social responsibility [47].

On the other hand, the impact of ESG on economic consequences could not be omitted since there are mixed results. Many authors have found a positive correlation between ESG activities and firms' financial performance [48]. In addition, the social dimension of sustainability underlines the firm's impact on society and issues ranging from community relations to social support and philanthropy [33,49]. Jayachandran et al. [50] examine the impact of corporate social performance focusing on two dimensions: the environment and the product. They found that the former's positive impact is higher than the latter's and that the social dimension has a greater value on corporate performance. Moreover, Wang and Qian [51] argue that stakeholders may favor firms with a higher impact on philanthropy, providing them with political resources. Therefore, corporate philanthropy is positively correlated with a firm's financial performance since it paves the way for more significant political and financial support.

On the other hand, other scholars found a negative correlation between ESG and economic consequences. For instance, ref. [52] examined the impact of corporate social responsibility on shareholder value and concluded that there is a negative correlation between these two variables because "mandatory CSR activities can impose social burdens on business activities at the expense of shareholders" [52] (p. 1296). Similar to this study, Chen et al. [53] examine the impact of mandatory corporate social responsivity (CSR) on a firm's performance and its social externalities in China. Their results suggest that the mandatory disclosure of CSR creates insufficient spending, and as a result, it raises the CSR cost, thus reducing its potential positive impact.

Related to social sustainability is the concept of social capital, which involves a direction toward binding society through the conversion of individuals into community members. Furthermore, the social dimension of sustainability brings to the surface prevalent social issues that are significant to the successful implementation of initiatives driven by society, such as community relations, social support and consumer choice, among others [54–56]. Within this context, corporate social responsibility (CSR) is another important element linked with the social dimension of sustainable growth. The concept of CSR is also linked with the community and external stakeholders [32], while it is considered the main vehicle firms adopt to return to society a share of the gains from its business activity.

Moreover, the rise of socially responsible approaches to business activities and investing has refocused the priorities of both corporate management and investors, even if they do not believe in the company's social aims. Therefore, CSR and ESG are also considered to optimize stockholders' interest through the increased social value of the firm [57]. Agency theory and stakeholder theory provide the main theoretical framework to discuss social sustainability as well as sustainability reporting [58].

In agency theory, the separation of ownership, management and the board is central to the implementation of CSR and ESG reporting [59,60]. Contrary to Friedman's [4] view, other academics and practitioners believe that companies should be more "socially responsible" than in the past. Stakeholder theory provides the dominant theory in explaining social sustainability, analyzing the influences of different interest groups of stakeholders besides shareholders [61]. The main argument of stakeholder theory is that business partners, employees, customers, and financial and societal stakeholders are interrelated. Firms are engaged in various activities with their stakeholders to achieve several goals. According to Freeman and Reed [62], two frameworks capture the concept of stakeholders: the first is related to policy and business planning, and the second provides the guidelines for corporate social responsibility implemented by both management and stakeholders. Therefore, Freeman and Reed [62] argue that the first framework deals with the relationship between the firm and its stakeholders and how it is designed and managed. In contrast, the second one focuses on external influences depending on the firm, and they may come from the government, communities, and other groups that promote social issues. Furthermore, stakeholder theory provides good reasoning for sustainability reporting since, as Vitola [63] argues from a stakeholder perspective, it motivates and directs firms to prepare quality reports that integrate all relevant information, including financial, social, governance, and environmental data.

Perez-Lopez et al. [64] focus on sustainability management practices as they have developed over the last two decades, analyzing the link between public disclosure and internal corporate sustainability practices. The literature has shown that sustainability reporting has been adopted due to external pressures, although several internal motives for sustainability reporting have recently emerged [65]. With the application of four company-level sustainability reporting configurations based on external and internal motives for sustainability reporting at different levels, Perez-Lopez et al. [64] find that both external and internal factors are significant in understanding the contribution of sustainability reporting.

Perez-Lopez et al. [66] underline the fact that firms face increased pressure for accountability requirements since various groups of stakeholders demand the disclosure of the social and environmental actions and outcomes of companies. These requirements are closely associated with decision-making. Therefore, this call from society has led to an increased interest in non-financial reporting standards as well as the designing and development of compliance codes. Such requirements call for developing robust measurement and reporting frameworks that will lead to the strategic implementation of corporate social responsibility, at the same time providing a clear response to the demands for accountability by the stakeholders of the company.

Vieira et al. [67] discuss the three dimensions of sustainability and their relationship with social indicators of responsibility. The analysis is focused on creating a map of social sustainability indicators centered on the social dimension of responsibility and sustainability reporting. Thus, they argue that sustainability reporting is essential to measure the social impact of firms' business activity. To this end, accounting plays an important role in bringing social actions to the surface and measuring these impacts on the community. Sustainability reporting is a significant tool for companies, organizations, and institutions to design and implement their short-and long-term goals [65]. Wei [68] provides a textual analysis of corporate communications of environmental responsibility based on searching official corporate websites. Two main findings stem from the analysis. First, there are two broad subjects underlying corporate disclosure, and second, there is evidence that

there are associations between pronoun usage and corporate social responsibility, while it was shown that the present textual analysis exhibits certain communication patterns.

In the same strand of the literature, Fuadah et al. [69] analyze the effect of sustainability reporting on tax avoidance and firm performance in the region of Palembang, Indonesia. Their main findings lead to the conclusion that sustainability reporting positively affects tax avoidance, while tax avoidance has a statistically significant effect on firm performance. Prihanti-Nugraheni et al. [70] examine the social dimension of sustainable tourism development with an application to Indonesia. They provide a conceptual analysis of social sustainability and its interdisciplinary, including corporate social responsibility and business activity. The main conclusion of the analysis is that tourism social sustainability includes a range of activities related to decision-making by governments, societies, and communities.

Talan [71] provides a thorough analysis of the social dimension of sustainability, paying particular attention to the determinants that drive businesses' decision-making to achieve the social responsibility goal. Moreover, it is shown that the government's policies are also important to achieve social sustainability. These factors reflect the wide variety of interrelated concepts, including financial and non-financial factors affecting social sustainability. Moreover, ref. [72] focuses on public and third-sector organizations and critically analyzes the sustainability reporting (SR) guidelines. According to the paper, sustainability reporting guidelines fail to promote an ecologically informed approach that could lead to the decreased utility of the reports. Due to the unique and demanding features of public and third-sector organizations, the research highlights the need to produce self-accounts of their activities rather than applying fit-all guidelines.

Many researchers focus on trends in sustainability reporting over time. One of the first studies to look at this empirically, ref. [73] examines the Fortune Global 250 companies between 1998 and 2001. His research reveals a substantial increase in reporting over these years. He also finds that companies pay more attention to issues related to the physical environment and their employees than to external social capital. In the same vein of research, Perez and Sanchez [17] examine the evolution of reporting in four large mining companies. The results indicate that over the period 2001–2006, the reports contained more meaningful information, and references to the social dimension developed significantly. In addition, Leszczynska [74] examines sustainability reports from two different periods, 2005 and 2010, and concludes that the most recent reports have better quality and more information on the three dimensions of sustainable development.

Other studies focus on the themes that are disclosed in the reports. In particular, Khan et al. [19] explore the sustainability reporting in commercial banks in Bangladesh. Their findings reveal that although there is detailed information regarding society, there is little information about product stewardship and human rights. With the same research aim, Aggarwal and Singh [24] investigate sustainability reporting in 60 companies in India. The analysis demonstrates that companies tend to focus on issues regarding society in their reports. On the other hand, they do not put emphasis on issues related to their internal human capital. In a different context, Fonseca et al. [18] focus their research on higher education institutes in Canada. Their findings reveal that the reports have a narrow scope and emphasize eco-efficiency.

An essential aspect of sustainability reporting is stakeholder engagement. Specifically, Torelli et al. [23], by reviewing 152 reports of public interest entities in Italy, reveal that stakeholder engagement can enhance the quality of reports. In another study, Manetti [22] evaluates 174 reports from the GRI database to identify the stakeholder engagement level in reporting. The results demonstrate an approach more focused on stakeholder management approach than on engagement. Thus, in order to have a better quality of disclosures, companies have to put more effort into engaging their stakeholders and reassess their motives while reporting their practices. In a recent research, Landrum and Ohsowski [75] investigated 230 US companies' reports in order to reveal their worldviews on sustainability. The study shows that the majority of companies focus on disclosing practices that bring

benefits to them. Finally, some discouraging findings come from the Sawani et al. [76] study. They assess the reporting of 12 Malaysian organizations, concluding that managers provide selective reporting to benefit shareholders (Table 1).

Table 1. Studies on sustainability reporting.

Authors	Organizations Examined	Report Publication Year	Operating Countries	Number of Companies/Reports	Main Findings
[73]	Fortune Global 250 companies	1998 and 2001	Multinational	250 companies	• Substantial increase in reporting over the years • More attention to issues related to the physical environment and employees • Less focus on external social capital
[17]	Major mining companies	2001–2006	Australia, UK, France, Mexico	4 companies—31 reports	• More meaningful information over the years • More references to the social dimension
[76]	Listed in BURSA Malaysia	2007	Malaysia	12 companies	• Selective reporting for shareholder benefit
[18]	Universities	2006–2008	Canada	25 Universities	• Narrow scope • Focus on eco-efficiency
[22]	Companies in GRI online database	2008	Not specified	174 sustainability reports	• Stakeholder management approach
[19]	Commercial banks	2008–2009	Bangladesh	12 commercial banks	• Detailed information on society • Little information on product stewardship and human rights
[74]	Multinational organizations	2005 and 2010	Multinational	29 reports	• Most recent reports have better quality and more information on the three dimensions of sustainable development
[75]	Companies in GRI online database	2013	North America	230 companies	• Disclosure of practices that benefit companies themselves
[24]	Top-listed companies	2013–2014	India	60 companies	• Focus on societal issues • No emphasis on issues related to their internal human capital
[23]	Public interest entities	2017	Italy	152 organizations	• Stakeholder engagement enhances report quality

3. Methodology

The S&P500 Index was used to determine the population examined in this research. This index was chosen as it is frequently cited as the top indicator of U.S. large-sized companies and accounts for 80% of the total market value [77,78]. As of 5 February 2023 [79], three companies had two share classes in the S&P500 Index. In particular, News Corporation and Fox Corporation have both Class A and Class B shares in the index, while Alphabet Inc. has Class A and Class C.

Companies publish their sustainability practices and actions in one of the following reports (i) Sustainability Report, (ii) CSR Report, (iii) ESG Report, (iv) Impact Report, (v) Corporate Citizenship Report. We downloaded the latest report of each company from their official website. Of the 500 companies, 5 had a report for 2020, 356 for 2021 and 112 for 2022. In order to ensure that the content selection remained consistent, we manually extracted the text related to community impact. The selected texts were sections within the reports, either in a separate chapter with a title referring to the communities (e.g., communities, community impact, community support) or a subsection with a corresponding title. Of 500 companies, 26 had no clear section about communities, while 2 had the same report

(General Electric Company and GE Healthcare Technologies Inc., Chicago, IL, USA). Thus, the final analysis was conducted on 473 companies.

In order to identify the main themes discussed in the business reports, we used the Structural Topic Model (STM) in R. The STM is a statistical method for analyzing text data based on previous probabilistic topic models with the advantage of taking into account metadata. The model's objective is to make it possible for scholars to identify themes/topics within text documents and evaluate how related they are to documents' metadata [80]. In this research, the companies' industry and the year of the report were used as metadata, as these two variables can influence the topics.

At the stage of text data preprocessing, the words "community" and "communities" were removed. As the analysis was focused on the content related to community impact, these two words were frequently used in the relevant chapters, and as a result, they did not add value to the results. In order to make our analysis more effective, we also removed stop-words, numbers, and punctuation, converted all letters to lowercase, and performed stemming by keeping the root form of each word.

4. Findings

The next step was to select the number of topics (k). Although the STM performs the text analysis unsupervised, the researcher has to specify the topics to be found in the texts [81]. Determining the exact number of topics suitable for a particular corpus is complex, and there is no correct answer [82]. Thus, we used a combination of algorithms in order to select the number of topics for this research. First, we used the algorithm of Lee and Jung [83]. This algorithm has the benefit of choosing the topics automatically and can be used as a starting point in selecting the number of topics [80]. In our case, when running the "stm" function with k = 0, the results indicated 44 topics.

Then, we used the function "search", which runs automated tests on a predetermined number of topics specified by the researcher [84]. Based on our previous test, we ran the function with a number of topics near 44. Thus, we estimated a model for 20, 25, 30, 35, 40, 45, and 50 topics (75 iterations). After examining the held-out likelihood, residuals, semantic coherence, and lower bound [85] (Figure 1), a number of topics between 32 and 38 could be considered appropriate.

Thus, we ran the "search" function again, this time estimating a model for 32 to 38 topics (no other parameters set). The new diagnostic plots indicated that 35 is a good number of topics as there is a high held-out likelihood and semantic coherence, while there are low residuals (Figure 2).

Table 2 shows the 35 topics with their top words using four metrics: Highest Probability, FREX, LIFT, and Score. Probability indicates the most common terms in a topic, FREX is described as the relationship between a word's exclusivity and frequency, LIFT is based on a word's appearance frequency in a specific topic in comparison to other topics prioritizing the less frequent words in other topics, and Score is similar to LIFT, but it uses the log frequency. We labeled the topics with a suggested name based on the interpretation of the top words and the texts highly associated with each topic.

Moreover, Figure 3 shows the predicted percentage of the corpus related to each topic, revealing that the most common topics are Topic 3 and Topic 15. Topic 3 is related to donations, while Topic 15 focuses on science, technology, engineering, and mathematics (STEM) education.

Table 2. Topic summary.

Topic 1		
Topic 1 Top Words: Highest Prob: employe, engag, program, work, respons, volunt, activ FREX: employe, engag, respons, corpor, align, strateg, activ Lift: evid, employe, engag, committe, align, priorit, emb Score: evid, employe, engag, disast, strateg, respons, corpor	Text highly associated with the topic: *"We also engage our employees through our giving and volunteer benefits. We match most charitable contributions of our employees up to $25,000 per calendar year per employee, and provide an online platform that makes giving easy, connecting our employees to thousands of local, national, and international nonprofit and charitable organizations."*	Topic's suggested name: Employee Engagement
Topic 2		
Topic 2 Top Words: Highest Prob: donat, support, covid, hospit, children, first, program FREX: hospit, malaysia, solar, vaccin, kid, valley, uplift Lift: uplift, taiwan, malaysia, wish, santa, ventil, craft Score: uplift, solar, malaysia, taiwan, hospit, vaccin, diabet	Text highly associated with the topic: *"The organization's goal is to help vaccinate 70% of Toledo and Northwest Ohio. As of June 2022, more than 60% of residents in Ohio had received at least one dose of the COVID-19 vaccine."*	Topic's suggested name: Vaccinations
Topic 3		
Topic 3 Top Words: Highest Prob: foundat, organ, donat, give, support, employe, match FREX: foundat, charit, match, give, grant, gift, organ Lift: accredit, retire, org, maximum, charit, match, dollar Score: accredit, foundat, match, charit, give, donat, grant	Text highly associated with the topic: *"In 2021, $5.1 million in combined employee, retiree and company matching gift contributions was donated to more than 2000 charities around the world. These donations supported a number of local needs ranging from local education programs to disaster relief and social services organizations."*	Topic's suggested name: Donations
Topic 4		
Topic 4 Top Words: Highest Prob: travel, build, invest, employe, support, help, volunt FREX: travel, main, thrive, spur, stronger, build, pool Lift: spur, travel, tier, pool, main, legisl, lost Score: spur, travel, main, bond, tier, pool, build	Text highly associated with the topic: *"These campaigns raised over 48 million miles for organizations that provided travel support, health and humanitarian services, and meals to nearly 4000 Afghan refugees as they resettled to safe, new homes across the country."*	Topic's suggested name: Travel
Topic 5		
Topic 5 Top Words: Highest Prob: energi, program, support, custom, help, econom, effici FREX: energi, effici, electr, util, power, solar, grid Lift: effici, energi, grid, electr, bill, territori, solar Score: effici, energi, electr, solar, gas, grid, bill	Text highly associated with the topic: *"As these programs scale, we will have cleaner, more affordable, and more reliable energy for everyone." "After the disaster of Hurricane Ida in 2021, we donated to The Footprint Project, supporting the construction of solar-powered microgrids in areas of New Orleans, Louisiana without power. The Footprint Project's mission is to provide clean energy for communities in crisis."*	Topic's suggested name: Energy

Table 2. *Cont.*

Topic 6		
Topic 6 Top Words: Highest Prob: volunt, employe, hour, program, give, nonprofit, servic FREX: hour, volunt, profit, non, volunteer, board, civic Lift: discount, nevada, tuesday, boston, log, civic, hour Score: discount, volunt, boston, nevada, hour, tuesday, profit	Text highly associated with the topic: *"Wynn Resorts employees volunteer thousands of hours, and raise hundreds of thousands of dollars, directly benefiting the communities in which the Company does business. During the COVID-19 pandemic, Wynn employees volunteered more than 61,000 h globally."*	Topic's suggested name: Volunteerism
Topic 7		
Topic 7 Top Words: Highest Prob: health, care, support, healthcar, food, provid, foundat FREX: health, healthcar, care, healthi, smile, dental, insecur Lift: warehous, dental, smile, nurs, pharmaci, healthier, suicid Score: warehous, dental, health, smile, healthcar, care, pharmaci	Text highly associated with the topic: *"Now in its 20th year, the program is on track to support over 1000 Give Kids a Smile events nationwide. The events provide oral health education, and preventive and restorative dental services to nearly 300,000 underserved children. Approximately 8100 dentist volunteers and 17,000 other dental team volunteers have participated in the program."*	Topic's suggested name: Dental Healthcare
Topic 8		
Topic 8 Top Words: Highest Prob: custom, servic, access, provid, data, spectrum, inform FREX: spectrum, charter, internet, data, custom, news, content Lift: download, spectrum, charter, internet, safeguard, broadband, threat Score: download, spectrum, internet, news, charter, cybersecur, broadband	Text highly associated with the topic: *"Our customers expect AT&T to protect their information and respect their privacy. We maintain comprehensive network and data security protocols (page 10), train our employees on privacy at least annually and are committed to compliance with all privacy laws and regulations where we operate". "Through our products, we help protect the identity, privacy, and security of nearly 80 million customers in 150 countries, contributing to SDG 16."*	Topic's suggested name: Customers and Data Policies
Topic 9		
Topic 9 Top Words: Highest Prob: supplier, sustain, busi, climat, impact, divers, product FREX: supplier, climat, sourc, sustain, chain, resili, esg Lift: deepli, ingredi, mountain, emiss, esg, carbon, sourc Score: deepli, supplier, climat, emiss, esg, carbon, chain	Text highly associated with the topic: *"All suppliers must accept and agree to our Supplier Code of Conduct, which requires compliance with laws governing employment, environmental practices, anti-corruption, antidiscrimination, and other similar issues. Our internal procurement policy, launched in 2021, also outlines our procurement team's responsibility to assist Iron Mountain to achieving our supplier diversity and sustainability goals. To evaluate our suppliers' ESG performance and identify potential ESG."*	Topic's suggested name: Sustainable Business Practices—Supply Chain

Table 2. *Cont.*

Topic 10		
Topic 10 Top Words: Highest Prob: local, tree, recycl, environment, program, conserv, support FREX: recycl, tree, conserv, wildlif, wast, plastic, plant Lift: sensit, plastic, recycl, wildlif, ocean, debri, sea Score: sensit, recycl, plastic, conserv, tree, wast, wildlif	Text highly associated with the topic: *"For more than two decades, WM has enhanced and protected nearly 20,000 acres for wildlife in partnership with Wildlife Habitat Council (WHC), the authoritative conservation program for businesses". "Recycle Right program, the first national, comprehensive recycling education and outreach program built to provide open-source tools to help customers understand how to recycle properly."*	Topic's suggested name: Wildlife and Recycling
Topic 11		
Topic 11 Top Words: Highest Prob: busi, divers, support, black, small, program, women FREX: own, capit, small, black, entrepreneur, divers, busi Lift: median, wealth, latino, own, entrepreneur, firm, capit Score: median, small, entrepreneur, supplier, wealth, cdfis, capit	Text highly associated with the topic: *"These and other inequities are the motivation behind JPMorgan Chase's $30 billion commitment to help close the racial wealth gap among Black, Hispanic and Latino communities. Informed by data and insights that highlight the challenges and point the way to effective solutions, we are leveraging our resources as a financial institution to direct capital and expand opportunities for Black, Hispanic and Latino communities to build, sustain and pass on wealth."*	Topic's suggested name: Black and Latino Communities
Topic 12		
Topic 12 Top Words: Highest Prob: water, home, build, peopl, program, trade, access FREX: water, trade, construct, home, lower, clean, sanit Lift: lower, water, wash, diaper, trade, drink, sanit Score: lower, water, trade, drink, wash, construct, sanit	Text highly associated with the topic: *"Water quality and quantity are often very local issues, so we have joined forces with nonprofit and community partners to create and implement water restoration initiatives that benefit the areas in which we operate."*	Topic's suggested name: Water
Topic 13		
Topic 13 Top Words: Highest Prob: support, program, educ, provid, help, foundat, student FREX: workforc, vibrant, colleg, chicago, youth, skill, scholarship Lift: vibrant, weld, momentum, multiyear, chicago, advis, vocat Score: vibrant, chicago, weld, skill, workforc, scholarship, citizenship	Text highly associated with the topic: *"Our contributions to higher education include supporting campus expansion projects, STEM programs, scholarship opportunities, and educational equipment at all levels of education, including high school, skilled labor, and post-secondary organizations."*	Topic's suggested name: General Education
Topic 14		
Topic 14 Top Words: Highest Prob: support, anim, provid, initi, employe, year, impact FREX: anim, pet, scholarship, steam, dozen, main, game Lift: dozen, pet, steam, anim, dog, undertak, gulf Score: dozen, anim, pet, steam, dog, game, medicin	Text highly associated with the topic: *"We are committed to creating a positive and lasting impact for people, animals, and the environment." "In addition, we also donate products and resources for pets in need in other emergency situations, such as for animals at risk due to neglect or abuse."*	Topic's suggested name: Animals

Table 2. *Cont.*

Topic 15		
Topic 15 Top Words: Highest Prob: stem, student, educ, support, program, technolog, develop FREX: stem, scienc, engin, technolog, student, teacher, proactiv Lift: proactiv, stem, scientist, pitch, csr, viabl, judg Score: proactiv, stem, scienc, scientist, engin, student, technolog	Text highly associated with the topic: *"We support opportunities that provide youth access to STEM and AI education. These efforts are designed to inspire students through our technology, engage them directly with NVIDIA engineers, and encourage innovation through hands-on activities."*	Topic's suggested name: STEM Education
Topic 16		
Topic 16 Top Words: Highest Prob: support, brand, donat, million, fund, program, women FREX: brand, girl, women, breast, black, york, fiscal Lift: marketplac, voter, brand, uncf, breast, mcdonald, beauti Score: marketplac, brand, breast, girl, cancer, fiscal, uncf	Text highly associated with the topic: *"We have a long-standing legacy of supporting and empowering women and girls. As an organization founded by a woman, we are dedicated to helping women and girls achieve their highest potential, including through social investments."*	Topic's suggested name: Women
Topic 17		
Topic 17 Top Words: Highest Prob: peopl, skill, help, student, program, technolog, transform FREX: transform, skill, young, tech, career, fiscal, technolog Lift: transform, immers, upskil, connecticut, grante, confid, artifici Score: transform, skill, fiscal, tech, immers, technolog, learner	Text highly associated with the topic: *"Working with social mobility charities hosting workshops on professional skills for young people has been a highlight of my professional career."The aim of this pillar is to give young people from a variety of diverse backgrounds the skills and experience needed to become future science and technology leaders."*	Topic's suggested name: Skills Development
Topic 18		
Topic 18 Top Words: Highest Prob: donat, progress, cancer, employe, contribut, organ, peopl FREX: polit, progress, cancer, insur, pioneer, john, japan Lift: pioneer, polit, humbl, disord, john, insur, japan Score: pioneer, polit, cancer, insur, progress, john, erg	Text highly associated with the topic: *"In 2017, Aflac Japan pioneered a volunteer peer-based employee community called "All Ribbons" for employees who have experienced cancer. The name was chosen to reflect the wish of community members to support each other and their Aflac colleagues who have experienced various types of cancer."*	Topic's suggested name: Cancer
Topic 19		
Topic 19 Top Words: Highest Prob: veteran, support, militari, program, provid, donat, year FREX: militari, veteran, sport, red, cross, teammat, atlanta Lift: assur, fallen, injur, militari, wound, auto, civilian Score: assur, veteran, militari, teammat, auto, fallen, wound	Text highly associated with the topic: *"We continue to support Warrior Built, an organization in Lake Elsinore, California that helps combat Veterans' transitions back to civilian life through vocational training, recreational therapy and mental health services."* *"A new charity that we supported in 2021 was Operation Finally Home, which builds hope within communities across the U.S. by providing or improving homes for Veterans, first responders and their families."*	Topic's suggested name: Veterans

Table 2. *Cont.*

Topic 20		
Topic 20 Top Words: Highest Prob: local, associ, support, donat, team, organ, provid FREX: florida, holiday, associ, blood, park, jame, art Lift: extra, jame, wheel, tampa, auction, atlant, denver Score: extra, florida, jame, blood, entertain, republ, associ	Text highly associated with the topic: *"UDR believes that by making it possible for our associates to contribute to their local communities and national outreach programs, we can continue to build a culture we are proud of and make a difference in the communities where we operate." "The pandemic continued to make traditional volunteering and fundraising more difficult in 2021. But, in addition to the firm's larger initiatives, our associates and advisors found creative ways to build bridges and support their local communities despite the challenges.*	Topic's suggested name: Associates' Support
Topic 21		
Topic 21 Top Words: Highest Prob: oper, local, engag, develop, impact, includ, work FREX: indigen, oper, stakehold, andor, assess, heritag, site Lift: andor, indigen, traffic, heavi, contractor, oil, drill Score: andor, indigen, gas, oil, basin, stakehold, oper	Text highly associated with the topic: *"Externally, we continued to support the communities where we operate and embraced the cultural heritage of our Indigenous neighbors." "Over the last few years, we have focused on strengthening our work to build trust with Indigenous Peoples potentially impacted by our operations. This began with the recognition that our actions will either support or diminish trust with Indigenous Peoples." "In response, we created a Cultural Heritage and Operational Verification process which requires each site to conduct a cross-functional review and approval of planned disturbance footprint against a cultural heritage survey and inventory to prevent unintended impacts to cultural heritage."*	Topic's suggested name: Cultural Heritage and Indigenous People
Topic 22		
Topic 22 Top Words: Highest Prob: farmer, program, global, sustain, compani, support, product FREX: farmer, agricultur, farm, nutrit, colleagu, erg, healthi Lift: argentina, farmer, agricultur, crop, farm, soil, programm Score: argentina, farmer, agricultur, farm, nutrit, colleagu, erg	Text highly associated with the topic: *"Corteva actively participates in policy-related dialogue pertaining to agriculture that affects the lives of farmers, consumers, our operations, our employees and the communities in which they live." "We strive to create an agricultural ecosystem that naturally supports people, progress and the planet."*	Topic's suggested name: Agriculture and Farming
Topic 23		
Topic 23 Top Words: Highest Prob: hous, provid, citi, program, afford, resid, home FREX: michigan, resid, citi, afford, apart, hous, pacif Lift: minut, apart, michigan, union, heat, prospect, arizona Score: minut, apart, afford, michigan, hous, union, arizona	Text highly associated with the topic: *"In 2021, Essex and its leadership contributed over $100,000 to the Housing Industry Foundation's (HIF) three signature programs creating direct and immediate impact with a focus on homelessness prevention and access to affordable housing for families in need."*	Topic's suggested name: Housing

Table 2. *Cont.*

Topic 24		
Topic 24 Top Words: Highest Prob: employe, support, donat, match, give, program, volunt FREX: match, colleagu, ukrain, app, group, corp, caus Lift: underwrit, app, exchang, corp, ukrain, ukrainian, profil Score: underwrit, news, colleagu, match, ukrain, employe, app	Text highly associated with the topic: *"In March and April 2022, we donated $75,000 to UNICEF to provide aid in the Ukraine crisis and $10,000 to the Global Fairness Initiative on behalf of the Ukrainian Freedom Fund."*	Topic's suggested name: Ukraine
Topic 25		
Topic 25 Top Words: Highest Prob: student, educ, school, program, stem, scienc, support FREX: scienc, stem, engin, oklahoma, student, math, teacher Lift: southwest, oklahoma, math, cleveland, teen, biolog, scienc Score: southwest, stem, oklahoma, scienc, student, math, engin	Text highly associated with the topic: *"We are committed to helping prepare teens from disinvested communities for the careers of the future. By creating ways for young people to access the training, tools and mentorship needed to succeed in post- secondary opportunities and their careers, we're building a diverse talent pipeline for Best Buy and other companies."*	Topic's suggested name: Supporting Teens from Disinvested Communities
Topic 26		
Topic 26 Top Words: Highest Prob: connect, digit, support, help, million, program, provid FREX: digit, mobil, connect, low, rural, small, charlott Lift: distinct, charlott, broadband, divid, lifelin, internet, incub Score: distinct, digit, internet, teammat, charlott, broadband, connect	Text highly associated with the topic: *"T-Mobile is passionate about enabling everyone to have access to the connectivity, technology, and skills needed to thrive in a digital world." "Through our Digital Communities program, we provide broadband connectivity and uninterrupted power to support underserved communities, focusing on education, including promoting digital literacy, increased employability, greater access to healthcare and financial inclusion."*	Topic's suggested name: Connectivity and Digital Literacy
Topic 27		
Topic 27 Top Words: Highest Prob: school, work, year, compani, home, first, team FREX: martin, say, texa, said, bridg, houston, feet Lift: feet, applianc, sort, tournament, martin, port, search Score: feet, dog, martin, applianc, tournament, habitat, say	Text highly associated with the topic: *"For the past 20 years, Valero has been the title sponsor, helping to elevate the tournament's stature by becoming a leader in charitable fundraising events on the PGA TOUR." "After its cancellation in 2020 resulting from the COVID-19 pandemic, the Halliburton Charity Golf Tournament returned for its 26th anniversary event in 2021. The tournament has raised more than $25 million for various charities across the U.S. since its inception in 1993."*	Topic's suggested name: Tournaments

Table 2. *Cont.*

Topic 28		
Topic 28 Top Words: Highest Prob: support, impact, equiti, work, help, foundat, social FREX: racial, equiti, justic, equit, address, black, solut Lift: catalyz, bold, minneapoli, bono, racial, crimin, racism Score: catalyz, racial, equiti, justic, bono, dispar, vaccin	Text highly associated with the topic: *"Intel, the Intel Foundation, and employees donated $600,000 through donation matching campaigns that supported social equity and justice causes globally in 2021. Intel and the Intel Foundation support community programs that place equity and access at the center of their offerings." "In 2021, we launched new opportunities for nonprofit professionals to advance diversity, equity and inclusion (DEI) within their organizations and communities. We held two inaugural cohorts of the Leading with Equity program that equipped 123 nonprofit leaders and board chairs with the education and tools to identify and remove systemic inequities within their organizations."*	Topic's suggested name: Social Equity
Topic 29		
Topic 29 Top Words: Highest Prob: financi, bank, busi, provid, develop, hous, support FREX: loan, bank, credit, fifth, cra, financi, third Lift: cra, discov, lmi, borrow, fifth, reinvest, loan Score: discov, cra, lmi, loan, fifth, cdfis, bank	Text highly associated with the topic: *"We support small business development by offering special lending programs and actively reaching out to the small business community to help finance operations and expansion."*	Topic's suggested name: Financial Support
Topic 30		
Topic 30 Top Words: Highest Prob: human, traffick, team, includ, train, access, secur FREX: traffick, game, player, secur, human, labor, chain Lift: exploit, traffick, player, represent, conflict, endow, gold Score: exploit, traffick, player, game, represent, labor, chain	Text highly associated with the topic: *"We have created and piloted a human rights due diligence process for our operations and supply chain, and partner with suppliers to prevent forced labor or trafficking."*	Topic's suggested name: Human Trafficking
Topic 31		
Topic 31 Top Words: Highest Prob: covid, busi, custom, support, servic, pandem, organ FREX: payment, solut, custom, covid, softwar, client, mask Lift: shield, payment, ppe, cloud, lockdown, softwar, mask Score: shield, payment, softwar, custom, mask, client, cloud	Text highly associated with the topic: *"COVID-19 Support for India's Rural Communities—In an effort to support communities in India heavily impacted by COVID-19, but where aid had been more limited, the Global Payments team selected."*	Topic's suggested name: COVID-19

Table 2. *Cont.*

Topic 32		
Topic 32 Top Words: Highest Prob: patient, health, access, provid, healthcar, support, medicin FREX: patient, diseas, medicin, clinic, healthcar, treatment, hiv Lift: accur, trial, hiv, pharmaceut, drug, diagnost, patient Score: accur, patient, medicin, hiv, drug, trial, diseas	Text highly associated with the topic: *"We also have global medicine donation programs, in which we provide medicines for people who would have no other means of accessing them due to country-specific limitations and availability. We have seven ongoing medicine donation partnerships with international non-governmental organizations providing assistance in low- and middle-income countries. We support requests for medical donations for pediatric health, mental health and HIV/AIDS, as well as access to surgical care by donating our general anesthesia treatment for use in free surgeries."*	Topic's suggested name: Medicines
Topic 33		
Topic 33 Top Words: Highest Prob: food, support, donat, program, help, meal, provid FREX: food, hunger, meal, store, book, feed, general Lift: uri, nourish, surplus, nutriti, luther, pantri, hunger Score: uri, food, store, hunger, nutriti, meal, feed	Text highly associated with the topic: *"In 2020, we donated more than 20 million pounds of food to Feeding America through 33 local food banks aligned with our U.S. manufacturing sites, bringing our total since 2016 to more than 102 million pounds of food donated." "Each year Ross holds a Season of Giving to support charitable partners through fundraisers that provide Thanksgiving meals and fulfill children's winter wishes for coats and toys."*	Topic's suggested name: Giving Food
Topic 34		
Topic 34 Top Words: Highest Prob: support, help, children, provid, disast, associ, need FREX: canada, disast, associ, humanitarian, india, children, vulner Lift: expedit, ministri, evacu, stride, lifesav, unwav, ukrainian Score: expedit, cancer, india, canada, associ, disast, ukrain	Text highly associated with the topic: *"In addition to our key social impact areas, TJX has also supported our communities when unexpected disasters strike. We have contributed generously for more than 25 years to Red Cross chapters around the globe, as well as to other nonprofit organizations that help local communities rebuild in the wake of devastating disasters."*	Topic's suggested name: Disaster Relief
Topic 35		
Topic 35 Top Words: Highest Prob: stakehold, program, engag, support, work, provid, human FREX: stakehold, benefici, indigen, concern, air, texa, right Lift: benefici, declar, rout, basin, air, frequent, mutual Score: benefici, stakehold, indigen, basin, air, agreement, tribe	Text highly associated with the topic: *"We seek to create shared value with our many stakeholders, including the communities where we operate. We work to understand our stakeholders' goals, perspectives and concerns and incorporate their feedback into our business strategies."*	Topic's suggested name: Stakeholders

The main two topics (Topics 3 and 15) are followed by Topics 1, 28, 13, 25, 20, and 33. Topic 1 is related to employee engagement, emphasizing employees' volunteerism, while Topic 28 covers practices regarding social equity, such as support to organizations that promote diversity and inclusion. Moreover, Topic 13 is about practices contributing to education, like offering scholarships and providing educational equipment. Topic 25 is related to actions for supporting teens from disinvested communities, including financial support, education, training, and mentorship, whereas Topic 20 discusses companies' associates and

how they contribute to the social capital. Furthermore, Topic 33 communicates practices about food like meal provision and food banks.

Next, Topics 6, 34, 9, 21, 19, 11, 31, 17, 7, and 24 are displayed. Topic 6 communicates a more general approach to volunteerism, Topic 34 is related to support after disasters, Topic 9 focuses on sustainable business practices and the supply chain, and Topic 21 refers to actions regarding the protection of the cultural heritage of indigenous people. Moreover, Topic 19 presents how to support the veterans, whereas Topic 11 is related to the contribution to Black and Latino communities. Topic 31 mentions COVID-19 and Topic 17 covers skills development. In addition, Topic 7 discusses dental healthcare issues, while Topic 24 is about aiding Ukrainian people during the war.

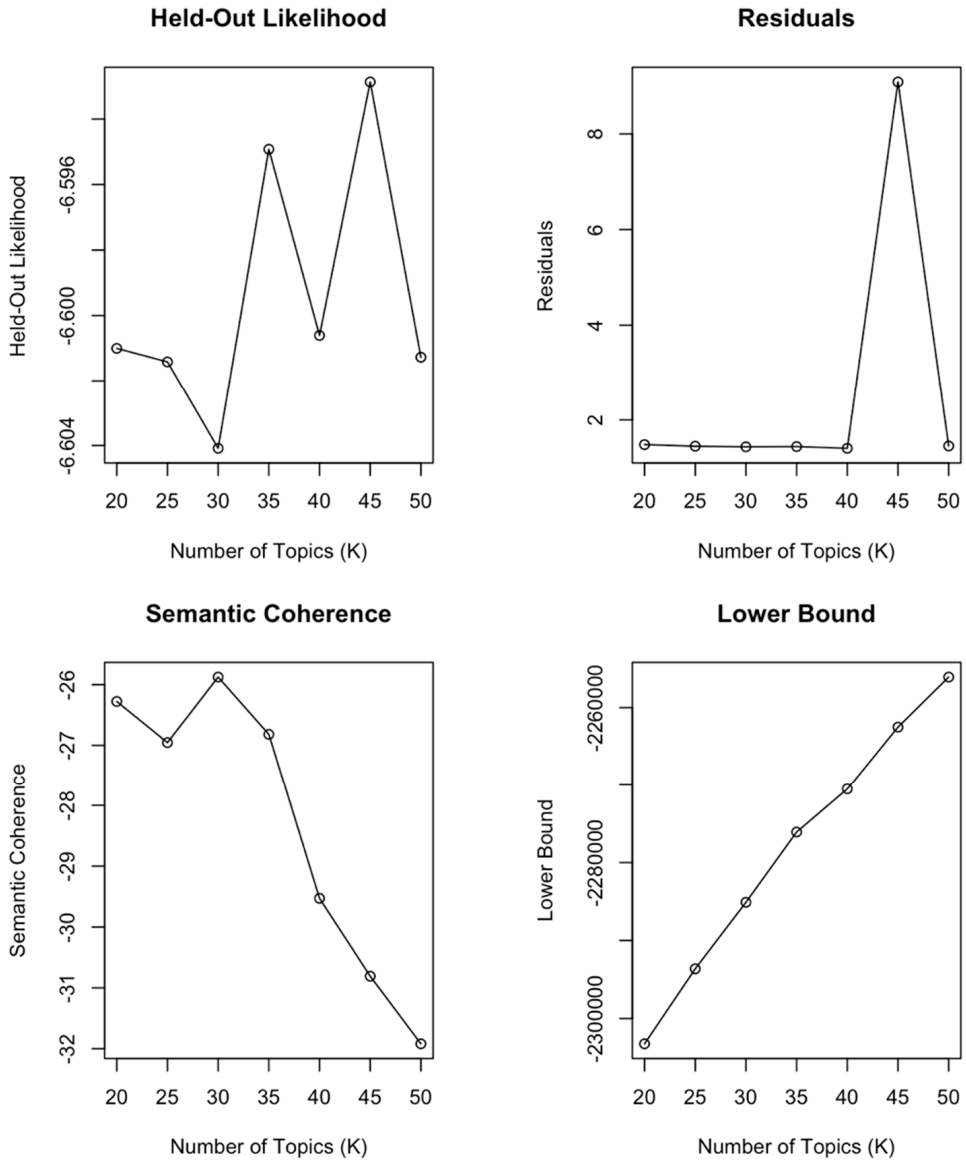


Figure 1. Diagnostic values by number of topics (testing 20, 25, 30, 35, 40, 45 and 50 topics).

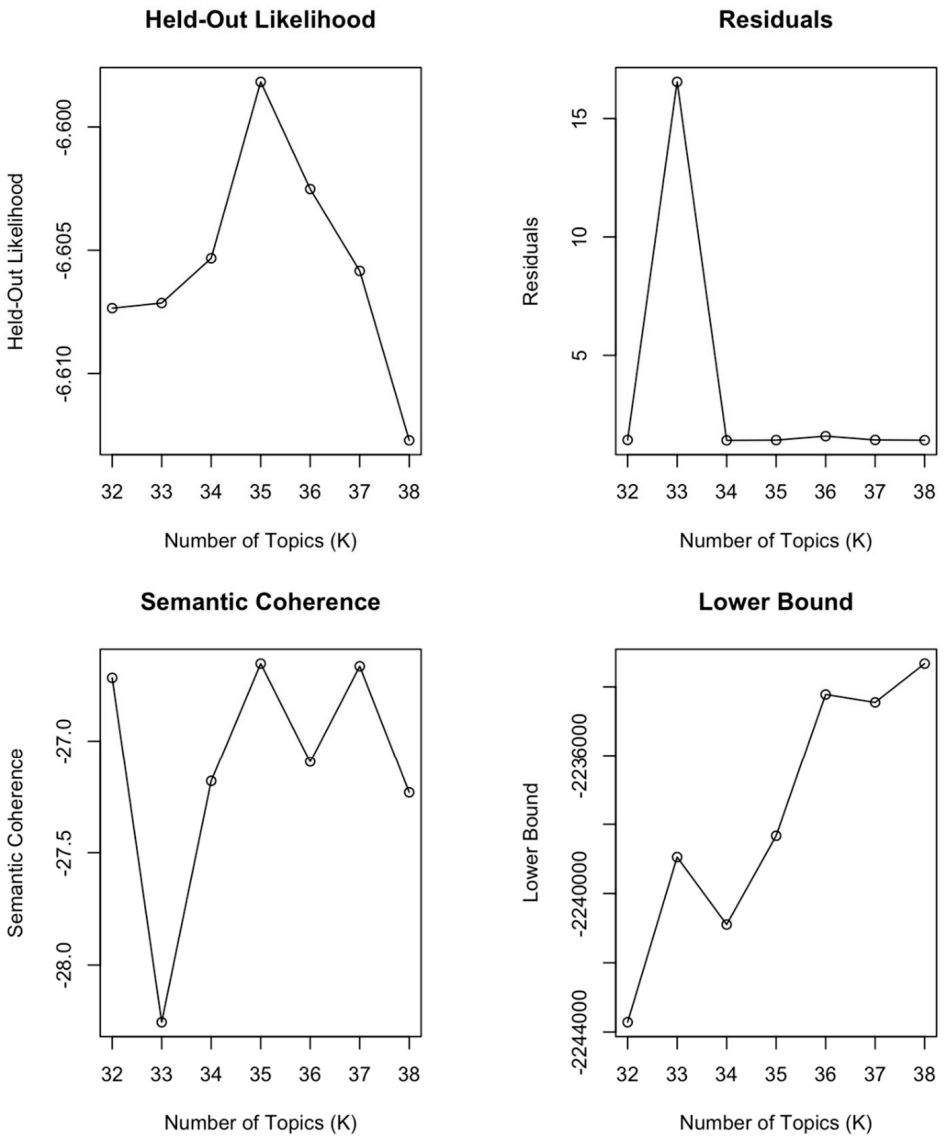


Figure 2. Diagnostic values by the number of topics (testing 32 to 38 topics).

Following, there are Topics 16, 5, 29, 32, 12, 2, 10, 22, 23, 30, and 14. Topic 16 refers to actions regarding women's empowerment, Topic 5 discusses energy issues related to communities, Topic 29 focuses on financial support, Topic 32 refers to medicine provision and Topic 12 is related to practices regarding clean water. Furthermore, Topic 2 covers actions regarding vaccinations, Topic 10 is about wildlife protection and recycling, and Topic 22 is related to agriculture and farming. In addition, Topic 23 communicates support actions in the form of housing, Topic 30 analyses practices to eliminate human trafficking, and Topic 14 is about animal protection.

Finally, the less common topics in our analysis are Topics 27, 18, 26, 8, 4, and 35. Topic 27 is related to organizing or sponsoring different types of tournaments, especially for charity reasons; Topic 18 communicates support to people who experienced cancer, while Topic 26 is about connectivity and digital literacy. Moreover, Topic 8 discusses customers and data policies, Topic 4 mentions support to communities through travel, and Topic 35 covers stakeholder issues.

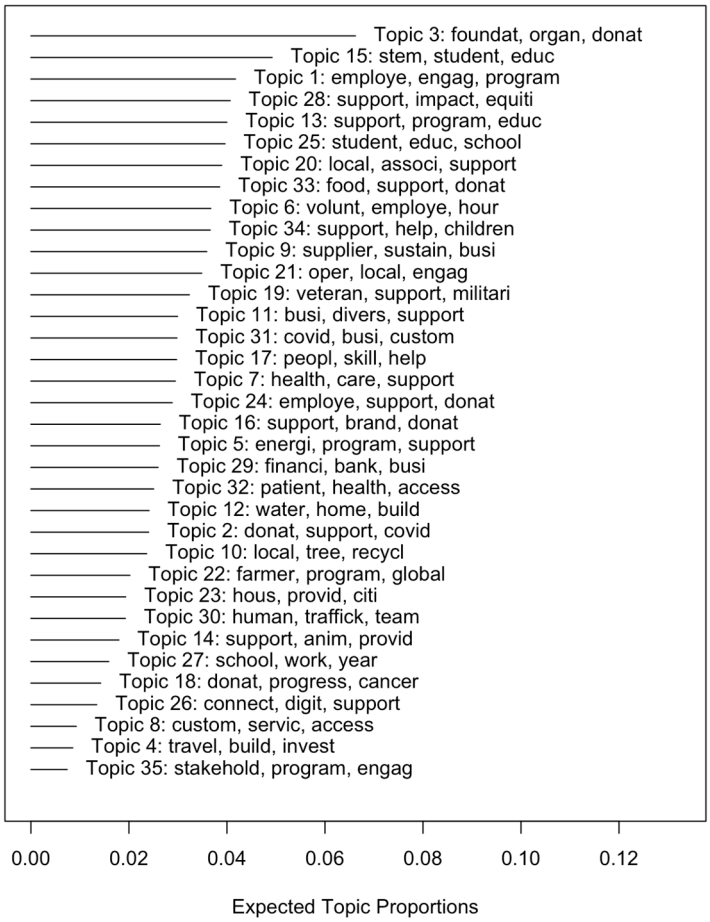


Figure 3. Top topics.

5. Discussion

The purpose of this research is to examine digital business reports about sustainability in order to identify the main topics of discussion related to external social sustainability practices. Our analysis reveals that there are 35 main topics of discussion. The most common topic among the reports is Topic 3, related to donations.

This result is aligned with previous studies [74] as donations constitute an essential action regarding social responsibility in which companies have actively engaged in in recent decades. This activity can easily improve branding and customers' perception of the company [86]. For instance, Leszczyska [74], when examining 29 multinational firms' sustainability reports from 2005 and 2010, found that donation is a dominant theme in all of them, and they highlight a wide variety of actions. In addition, when Khan et al. [19] analyzed business annual reports in the banking industry, they found that all the banks that were included in the research had given donations to people who suffered from disasters (e.g., flood), while some of the banks donated money for education (scholarships) and culture.

Our results confirm previous studies as the reports of S&P500 companies during 2020–2022 reveal that donations are a must-have theme of discussion and communication regarding the social dimension of sustainability. In our study, the S&P500 companies included in their reports donations in different fields, such as donations to healthcare organizations, food banks, non-profit organizations, schools, small businesses suffering from COVID-19 or other disasters, and organizations that support diversity and equitability. Moreover, many S&P500 companies have adopted a Matching Gift Program, a type of donation when businesses match the number of donations their employees have made to charity organizations [87]. Moreover, our study showed that the S&P500 companies, regarding their donations, try to contribute to a substantial number of the Sustainable

Development Goals (SDGs) set by the United Nations. The related goals are: "SDG1 -No Poverty", "SDG2—Zero Hunger", "SDG3—Good Health and Well-Being", "SDG4—Quality Education", "SDG5—Gender Equality", and "SDG10—Reduced Equalities" [88].

Moreover, the analysis reveals that the second-most-common topic in the business reports is Topic 15, related to STEM education. While technology is at the heart of today's business world [89], there is an increasing demand for STEM-related experts in the marketplace [90]. Moreover, in this field, there is a need for the continuous development of soft and hard skills [90]; thus, multinational companies have come to close this gap by supporting STEM education [83]. Our research confirms previous studies [83,90] as the majority of the S&P500 companies support STEM education in multiple ways. The analysis shows that the companies invest in STEM education by organizing robotics contests, creating maker spaces, developing educational programs, supporting educators, donating to organizations, and initiatives regarding STEM training. The companies' main focus is to reach and support teens from underrepresented and vulnerable communities so they can have the same opportunities and access to STEM education. Moreover, the companies communicate in their reports that this type of support and mentoring would inspire young people to become scientists and contribute to the future of innovation and technology.

The support of the S&P500 companies regarding STEM education is directly aligned with SDG4—Quality Education, of which the aim is to offer everyone equal opportunities for quality education. However, supporting STEM education to teens from unprivileged communities and groups indirectly contributes to other SDGs such as "SDG8—Decent Work and Economic Growth", "SDG10—Reduced Inequalities", and "SDG5—Gender Equality". Moreover, as many of the S&P500 companies are multinationals, it must be considered that STEM education practices also align with the European Commission's digital objectives 2030 for enhancing the population's digital skills [91].

Finally, this research reveals that companies tend to report actions and practices regarding social equity, women's empowerment, and disinvested communities and to be active in current issues like COVID-19 and the Russo–Ukrainian war. Comparing these results with Kolk's [73] research, it is evident that, during recent years, large companies have made significant improvements in addressing broader social issues.

6. Conclusions

Modern entrepreneurship mandates the return of dividends to all stakeholders of a company or an organization without exceptions, as opposed to what happened in the past, where the main objective of a corporation was mainly to maximize the profits of shareholders. The question of sustainability and in particular the way that a company or an organization contributes to the prosperity of society is considered a main parameter for success, but it is also a basic prerequisite for the acceptance of the company or the organization as a critical component of smooth functioning and effectiveness.

The growth of the global economy requires, more than ever, excellent differentiation in the approach of companies and organizations to their corporate methods, moving them towards a future that is better than yesterday in terms of environmental protection and the healthy living of citizens. This includes the flora and fauna, the business world and the groups involved, the local community and society as a whole, and the international community and its main actors. The existence of rules for the operation and growth of a corporation should be based on a commonly accepted denominator. This is now imperative for reasons of comparability, control, and therefore improvement of the existing operational structures of companies and organizations, for the ultimate benefit of the contribution to society. The environmental, social, and governmental dimension of sustainability (ESG) is directly related to the capabilities of companies and organizations since it is expected to contribute to their efforts to meet the interests of their stakeholders. The ESG dimension is seen as a useful framework that assists any related stakeholder in realizing the entrepreneurial process in order to manage risks and opportunities around sustainability issues. Annual social and corporate accounting reports are now required to list all those available data that

are necessary to ensure the social responsibility of businesses to interested parties, on the basis of which it is possible to evaluate and call for corrective and improvement actions in each subsequent period of use.

The usage of the sustainability parameter in companies and organizations is an important and auspicious practice for wider society and the role of companies towards it, as dealing with the major challenges from the external environment cannot occur through individual actions and fragmented efforts. The prevention of future crises in the economies of countries, and consequently in the profitability and growth of companies and organizations, is expected to provide and secure the required background for their healthy sustainable development in an environment that will work cooperatively towards the achievement of common values for the good of wider society.

The main variable of this research was the social dimension of sustainable development, more specifically the part that concerns the external stakeholders of a company or organization, with a particular focus on communities. The purpose of this paper was to analyze the published results regarding the ESG, sustainability, or CSR reports of the companies belonging to the S&P500 Index, while at the same time, it aims to identify the practices followed by the specific companies regarding their contribution to society. In the research conducted, to identify the social dimension of the sustainable development of the indexed companies, the authors used statistical analysis methods, and an analysis was conducted to evaluate the social dimension of sustainable development. The necessity of changing the management model of the development of businesses or organizations in the modern era in order to improve sustainability seems to be a one-way and correct choice. As a result, it was concluded that modern global entrepreneurship should go hand in hand with the strategy of the social dimension of sustainable development.

The S&P500 Index was used to determine the population examined in this research. This index was chosen as it is frequently cited as the top indicator of U.S. large-sized companies and accounts for 80% of the total market value. Companies publish their sustainability practices and actions in one of the following reports (i) Sustainability Report, (ii) CSR Report, (iii) ESG Report, (iv) Impact Report, or (v) Corporate Citizenship Report. In order to select the number of topics, a combination of algorithms was used, and 35 topics appeared alongside their top words using four metrics: Highest Probability, FREX, LIFT, and Score.

The most common topics identified are those related to donations and focused on science, technology, engineering, and mathematics (STEM) education. These topics are followed by topics related to employee engagement, emphasizing employees' volunteerism, and practices regarding social equity, such as support to organizations that promote diversity and inclusion. The results of this research are aligned with previous studies since donations constitute an essential action regarding social responsibility in which companies have taken an active role in the past. In addition, the findings are supported by Carroll's framework [5] of corporate social responsibility, as the practices identified in this research relate to ethical and discretionary responsibilities.

In the fast-changing reporting landscape, analyzing the sustainability reports of S&P500 companies has important implications for managers and practitioners. Managers can utilize sustainability reports as a communication tool and strategic driver that describes the implementation of current and planned strategies. Moreover, sustainability-related performance results, in line with the company's broader sustainability objectives, lead to the enhancement of the awareness of the company's values and objectives. It also provides significant insights to stakeholders on the fulfillment of the firm's commitments.

Decoding the topics in sustainability disclosures could shift companies to the next stage of reporting, which should guide corporate decisions and actions. Moreover, understanding the issues disclosed in these reports can influence the development of a company's sustainability strategy. This type of strategy will allow companies to align themselves with the SDGs [92,93] and take advantage of a wide array of opportunities set by the 2030 Agenda for Sustainable Development.

The findings of this study can further help organizations observe which sustainability dimensions have to be encouraged through company policies. Such a framework would allow companies to move towards a more sustainable business model and develop a novel perspective of reporting that is more in line with the current sustainability challenges. Finally, in a crisis period, given the constraints imposed and the absence of investment [94], managers would know which practices they should prioritize.

7. Limitations and Future Research

There are many opportunities for further research based on the findings of this study. First, this research focused on the community impact of S&P500 companies. The data analyzed are limited to external social business practices, so a similar methodology can be applied to internal social, environmental, and economic data. The findings from the three aspects of sustainable development could help academics and practitioners further investigate the current trends in sustainability reporting more holistically.

In addition, this study collects the most recent sustainability reports from S&P500 companies, as the aim is to examine current trends in sustainability reporting. However, future research could collect reports from a different time frame (e.g., five/ten years before/after) in order to compare trends and gain important insights into changes in companies' contribution to society. With the exception of the time frame, this study is limited to S&P500 companies. Future research could extend the report analysis to other indices or European companies to identify similarities and differences in sustainability practices. In addition, research could be conducted in other types of organizations, such as social enterprises [95].

Future research could go beyond the analysis of sustainability reporting and focus on different aspects of the reported practices. For example, conducting interviews with company executives would be very revealing, allowing for the development of a deeper and more thorough understanding of firms' motives and challenges in reporting on their sustainability practices. Finally, researchers could further examine the context or the environment in which sustainability practices take place and how the S&P500 companies manage to affect other companies.

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Conflicts of Interest: The authors declare no conflict of interest.

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