

The Semantic Construction of Sustainability in English-Language Online News: A Cross-Country Perspective

Nataša Gajšt, PhD

University of Maribor, Faculty of Economics and Business
Department of Foreign Business Languages
Razlagova ul. 14, 2000 Maribor, Slovenia
natasa.gajst@um.si

Abstract

Sustainability as a concept has received substantial academic and professional attention over the past years. By adopting a corpus linguistics approach, this contribution adds to this existing body of research as it examines how sustainability is discursively represented in English-language online news worldwide, with implications for sustainable governance and management. Drawing on the News on the Web (NOW) corpus, we conducted a corpus-driven analysis of 'sustainability + noun' collocations to identify various patterns in which sustainability is framed across selected domains. For this research, we focused specifically on semantic categories which reflect planning and strategy, operational action / implementation, institutional frameworks, and sustainability reporting to highlight the online news coverage of sustainability in broad societal contexts. We performed frequency analysis and collocate analysis of the most common 'sustainability + noun' collocations (e.g. sustainability goals, sustainability initiatives, sustainability standards), which we also examined in terms of their distribution across 20 national contexts represented in the corpus (i.e. online news from Europe, North America, Asia, and Africa) from the SDG and SDI scores perspectives. Our comparison indicates certain variation in the frequency of collocational patterns, which points to the differences in online news focus on sustainability and priorities regarding sustainability and sustainable practices. The findings demonstrate how corpus-driven analysis of online news discourse can add to the understanding of sustainability as a socially and organisationally constructed concept.

Keywords: sustainability discourse, corpus linguistics, collocational analysis, English language, online news, cross-country comparison

1 Introduction

Sustainability and sustainable development are both a pressing global issue and a prolific research domain. To date, many scholarly contributions have focused on the concepts of sustainability and sustainable development from various aspects, including their representation in the news. Print and online news reporting plays a prominent role in raising and sustaining public awareness of sustainability, and in shaping public understanding of sustainability by exploring and reporting on contemporary sustainability issues across national and international contexts. In today's era of digital communication, online news reporting has become a strong venue for the promotion of sustainability agendas.

The overall aim of this contribution is to add to the body of scholarly work on sustainability by presenting how it is discursively represented in English-language online news across 20 countries from Europe, North America, Asia, and Africa (i.e. Australia, Bangladesh, Canada, Ghana, Hong Kong, India, Ireland, Jamaica, Kenya, Malaysia, New Zealand, Nigeria, Pakistan, the Philippines Singapore, South Africa, Sri Lanka, Tanzania, the United Kingdom, and the United States of America). More specifically, we aim to show the frequency distribution of prevailing 'sustainability + noun' collocations in four distinctive categories, i.e. planning and strategy, operational action / implementation, institutional frameworks, and sustainability reporting. In addition, we attempt to discuss the differences in online news attention to these aspects of sustainability based on the selected countries' SDG and SDI scores as a broad general classification. However, the paper does not aim to test any causal relationships between these sustainability indicators (scores) and news reports on sustainability in the respective countries since this falls outside the scope of this contribution.

This research thus seeks to address the following questions:

RQ1: Which 'sustainability + noun' collocations are most frequent in English-language online news *across 20 countries from Europe, North America, Asia, and Africa*, and how are they distributed across the four selected semantic categories?

RQ2: How do the normalised frequencies of the established collocations differ across the 20 national news contexts?

RQ3: What general descriptive relationships can be observed between cross-country collocational patterns and the countries' SDG, SDG spillover, and SDI classifications?

2 Sustainability as a Global Organisational Concept and Its Representation in the Online news

This section serves as a general foundation for our study. First, we briefly present sustainability as a global organisational concept and its representation in online news. Second, we provide an overview of SDG and SDI scores as broad social and economic frameworks / measurement tools.

2.1 Sustainability Terminology and Sustainability in the News

Due to their importance for global development, sustainability and sustainable development have received both academic attention and online news coverage worldwide. While on the one hand academics strive to study various aspects of sustainability as a social, environmental or economic phenomenon, including the meanings of sustainability-related terms, media reports, on the other hand, discuss these various aspects in a broader context, usually meant for general public.

As regards terminology use, several studies have focused on the definition of sustainability itself (Bova, 2022; Jaspe Nieto et al., 2025; Kelman, 2021; MacGregor Pelikánová, 2025; Moore et al., 2017). Other studies have researched sustainability-related terminology used within different fields in which sustainability is an issue, such as rural planning (Bosshard, 2000), environmental engineering (Glavič & Lukman, 2007), etc.

We may argue that (online) news plays a key role in shaping broad opinions and attitudes towards sustainability challenges. For example, a study on the use of sustainability-related terminology in selected German newspapers found that sustainability is a topic of broad public debate, which questions the forms of development a society wishes to pursue as what it defines as sustainable (Fischer et al., 2017). The same study also found that sustainability-related terminology use in German newspapers has been on the increase, which may indicate an increased interest in the topic and the importance of the topic.

Some of globally oriented studies related to sustainability coverage in the media have found the following.

By using 115 leading newspapers from 41 countries, the research on sustainability-related media agendas variation across countries and regions found that there is no unified global trend when it comes to sustainability reporting as national priorities differ significantly. The authors also found that these differences reflect levels of socioeconomic development, with Global North media focusing more on issues like climate change, and Global South coverage emphasises topics such as corruption and poverty (Barkemeyer et al., 2013).

The study that explored media coverage of ten sustainability challenges using 23 broadsheet newspapers from five countries (2000–2016) found that, for example, climate change, poverty, and HIV/AIDS coverage was largely information-driven. Socioeconomic topics display strong seasonal patterns, and increased climate change coverage overshadows media attention to biodiversity and cleaner technologies. Also, this study established notable differences across countries and newspapers (Barkemeyer et al., 2018).

Another study, which focused on the occurrence of sustainability topics in leading national papers worldwide, found that globally, concepts such as sustainable development have entered mainstream public discourse, whereas concepts such as corporate sustainability have received far less attention in the newspapers. Also, media coverage of sustainability has grown since 1990 gradually with a few global sustainability-related events resulted in an increased use of sustainability-related terminology. Additionally, there are clear regional and national variations in how sustainability-related concepts are reported (Barkemeyer et al., 2024).

2.2 Measuring Sustainable Development

In the context of (inter)national sustainable development policies, Sustainable Development Goals (SDGs) and Sustainable Development Index (SDI) are often used to rank individual countries against their scope of sustainable development.

Sustainable Development Goals (SDGs) present a dominant framework for sustainability communication. SDG ranking methodology stipulates that countries are ranked based on their overall score, which measures the extent to which a country progresses towards its achievement of all 17 SDGs. When a country has achieved all 17 goals, its score is 100. Therefore, a score lower than 100 shows the percentage of SDGs achieved (Sachs et al., 2025). In addition to the overall SDGs index, countries can also be scored based on their SDG spillover. Namely, individual country's actions can have either positive or negative effects (spillovers) on other countries' activities to achieve SDGs. The SDG spillover index assesses these effects (i.e. environmental and social impacts) as embodied into trade, economy and finance, and security. In numbers, this means that a country with a higher score causes more positive and fewer negative spillover effects (Sachs et al., 2025).

On the other hand, Sustainable Development Index (SDI), which comprises human development index (HDI) with ecological efficiency of individual countries regarding human development, is a measure of country-level sustainable performance. In other words, it measures to what extent countries achieve

human development within planetary boundaries. It is stipulated that the countries with high HDI and low ecological impact have high SDI, whereas countries with high HDI and high ecological impact, and countries with low HDI have low SDI (Hickel, 2020).

As one of the aims of this paper is to discuss potential differences in the frequency distribution of prevailing 'sustainability + noun' collocations in online news discourse across 20 countries, we present their SDG and SDI scores. The countries can be grouped into the following distinctive tiers (high, medium, low) for each indicator. The grouping presented below is based on the scores provided in the cited documents and was done by the author of this contribution.

SDG Index (2025) tiers (development progress):

- High (75 or higher): the United Kingdom, Canada, New Zealand, Ireland, Australia, and the United States;
- Medium (65–74.9): Singapore, Jamaica, Malaysia, the Philippines, Sri Lanka, and India;
- Low (lower than 65): South Africa, Bangladesh, Ghana, Kenya, Tanzania, Pakistan, and Nigeria. (Sachs et al., 2025).

SDG International Spillovers Score (2025) tiers (global impact):

- High (90 or higher): Nigeria, Bangladesh, the Philippines, India, Tanzania, Sri Lanka, Pakistan, Ghana, Kenya, South Africa;
- Medium (89.9–60): Jamaica, Malaysia, Canada, Australia, New Zealand, the United States;
- Low (lower than 60): the United Kingdom, Ireland, Singapore (Note: SDG score data do not include Hong Kong) (Sachs et al., 2025).

SDI (2022) tiers (ecological efficiency):

- High (0.70 or higher) Sri Lanka, the Philippines, Jamaica, Bangladesh, South Africa;
- Medium (0.50–0.69): India, Ghana, Kenya, Nigeria, Pakistan, Tanzania, the United Kingdom, Malaysia;
- Low (lower than 0.50): New Zealand, Ireland, Australia, the United States, Canada, Singapore, Hong Kong (Hickel, 2020).

The above classification shows that countries occupy different positions, which depends on different sustainability metrics, which potentially highlights the multidimensionality of sustainability. Another important insight which can be obtained from the above classifications is that, in general, the Global North countries tend to have high SDG and low SDI scores, whereas the Global South countries tend to have lower SDG and higher SDG spillover and SDI scores. These scores can be used as general contextual benchmarks / broad macro-level frameworks to support our descriptive interpretation of cross-country variation in sustainability-related collocational patterns.

3 Corpus-Driven Analysis of Sustainability in English-Language Online News

For our study of 'sustainability + noun' collocations in English-language online news, we adopted a corpus-driven analysis. The main advantage of this quantitative linguistic analysis is that it enables the extraction of linguistic patterns from large authentic datasets. In addition, it provides an insight into recurrent patterns of collocations as conventionalised associations between words (Baker, 2009; Biber et al., 2015; Gries et al., 2010; McEnery & Hardie, 2012). As such, it can make these patterns visible at a large scale and can show how they are distributed in a specific linguistic environment, in our case, online news in the English language.

3.1 Data and Methodological Framework

To carry out our analysis of ‘sustainability + noun’ collocations in English-language online news, we explored the News on the Web Corpus (NOW Corpus) as the most current and robust monitor corpus of online news in English. At the time of data sourcing, the NOW Corpus contained about 24.8 billion words of data from web-based newspapers and magazines from 2010 onwards (Davies, n.d.). The corpus comprises online news articles from 20 English-speaking and English-using countries across the world, i.e. Australia, Bangladesh, Canada, Ghana, Hong Kong, India, Ireland, Jamaica, Kenya, Malaysia, New Zealand, Nigeria, Pakistan, the Philippines, Singapore, South Africa, Sri Lanka, Tanzania, the United Kingdom, and the United States of America.

The data for our study were extracted as follows. First, we performed a collocates search enabled in the NOW corpus by choosing *sustainability* as the node, i.e. the central lexical item under investigation. We set the collocates search within the span +1 word to the right. The collocates’ PoS (Part of Speech) was set to ‘NOUN’. Further search settings were 900 hits (i.e. the number of results), the words grouped by lemmas (i.e. all forms of a given noun together), and the display was set to RAW FREQ+ (i.e. raw frequency of words plus occurrences per million words). These selection criteria were adopted because the aim was to study which collocations most frequently occur in the online news rather than the strength of these collocations, which could be measured via MI scores. Also, country sub-corpora in the NOW corpus differ substantially in size, ranging from relatively small to very large, including the number and type of news sources represented in each sub-corpus. To account for these differences and to enable meaningful comparisons across countries, the normalised frequencies were analysed rather than raw frequency counts. These frequency values (overall and per individual country sub-corpus) were provided (generated) directly by the NOW Corpus. The database was accessed on 2 April 2026.

After the search was completed, we categorised the collocates into the four predetermined categories, i.e. planning and strategy, operational action / implementation, institutional frameworks, and sustainability reporting based on the coding scheme we designed and which comprised a predetermined set of guiding criteria (see Table 1). We only included those collocates with frequency of 500 or more in the entire corpus. Given the large size of the corpus, this threshold was used to ensure that the study focused on a few highly recurrent collocations across the four selected domains. The observed time-period was January 2010 – March 2026. As our aim was to analyse the overall presence of ‘sustainability + noun’ collocations in English-language online news only, the potential trends in the frequency of their occurrence in this 16-year period fall outside the scope of this paper.

Table 1: Coding criteria for collocation categorisation

CATEGORY	CRITERIA	GUIDING QUESTION
PLANNING AND STRATEGY	- the collocate - denotes goals, targets, or intended outcomes - encodes planning or strategic design, and / or - can be verbalised as intentional action	Does the collocation address some kind of future direction, i.e. where is the organisation going?
OPERATIONAL ACTION / IMPLEMENTATION	- the collocate - denotes implementation, execution, or some kind of ongoing practices - refers to concrete activities or practices - denotes execution rather than intention	Does the collocation address some kind of doing, i.e. what is being done in practice?

INSTITUTIONAL FRAMEWORKS	- the collocate - encodes governance structures, or regulatory context - denotes norms / standards, or compliance frameworks	Does the collocation address some kind of structures / authority, i.e. who governs sustainability and under what system?
SUSTAINABILITY REPORTING	- the collocate - encodes measurement / metrics - evaluation, or assessment of sustainability - denotes communication or disclosure of sustainability-related results	Does the collocation address some kind of measuring or communicating, i.e. how is sustainability measured and communicated?

Source: (own)

Once we completed the categorisation of the collocates, we analysed their frequency and cross-country distribution in the framework of the SDG, SDG spillover and / or SDI scores. We used Microsoft Excel as a tool for data management.

The data are given in the Appendices and the results of our study are given next.

4 Frequency and Distribution Analysis of ‘Sustainability + Noun’ Collocational Patterns Across Semantic Domains and Country Contexts

This section brings the results of our analysis of ‘sustainability + noun’ collocations from the viewpoint of their categorisation across the four selected semantic domains, i.e. planning and strategy, operational action / implementation, institutional frameworks, and sustainability reporting. In total, we analysed 31 collocates. As explained above, we only included collocates from the NOW corpus in the selected time-period (January 2010 – March 2026) with frequency of 500 or more occurrences, combined across all 20 countries represented in the corpus. Because we analysed lemmatized data, the quantitative results below are given for both singular and plural versions of the nouns combined, where relevant (e.g. *initiative* and *initiatives*). Figure 1 shows the overall frequency per million words of all nouns included in the four analysed categories, while Figure 2 presents the overall cross-country distribution of sustainability-related collocates under analysis.

Figure 1 Total overall frequency of ‘sustainability + noun’ collocates in the four analysed categories

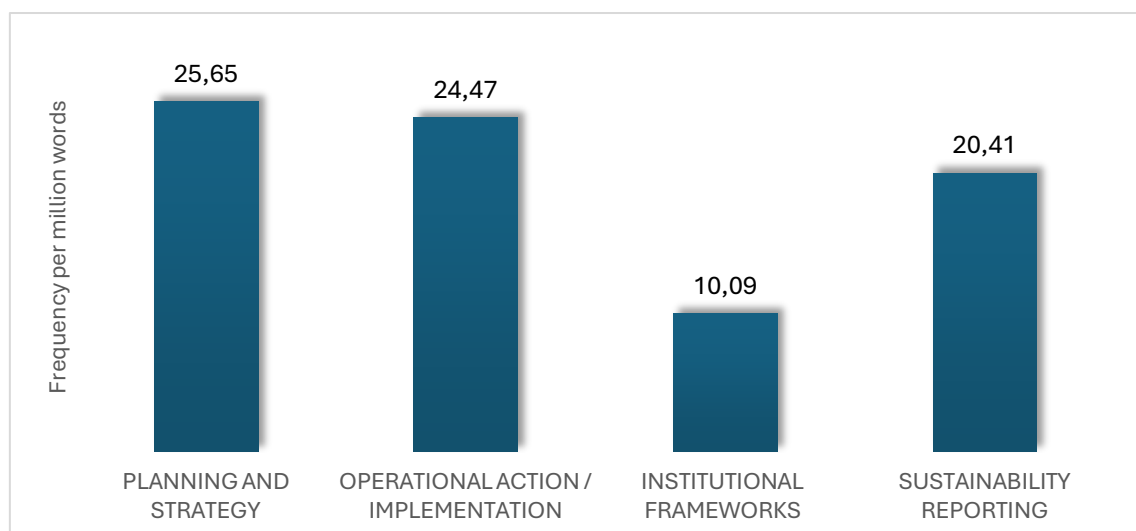
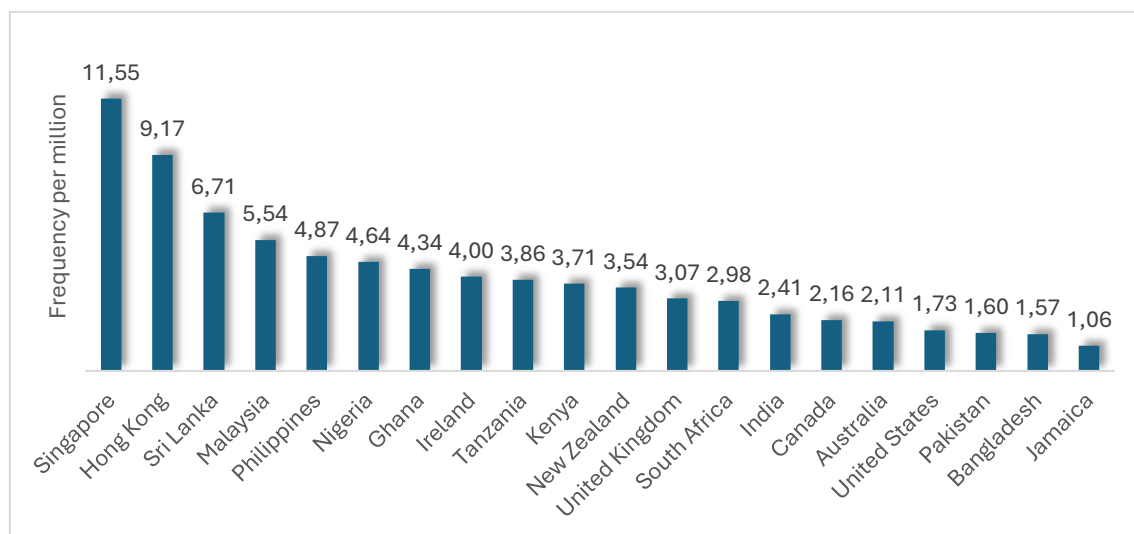


Figure 1 clearly demonstrates that the prevailing concern in English-language online news from the 20 observed countries in the time-period between January 2010 and March 2026 was associated with sustainability planning and strategy, closely followed by operationalization and implementation of sustainability. The third most frequent concern as regards sustainability across the 20 national contexts was sustainability reporting. Institutional frameworks received far less online news attention. These results suggest that online news discourse primarily prioritizes the actual (strategic) planning and enactment of sustainability and, to a bit lesser degree, its evaluation and reporting. On the other hand, a comparatively lesser attention is given to its regulatory / institutional frameworks, which remain less prominent in online news representations although they are the foundations for defining, implementing and monitoring of sustainability.

Figure 2 Overall Cross-Country Distribution of Sustainability-Related Collocates



The normalised frequencies of all selected ‘sustainability + noun’ collocations across the 20 observed countries reveal the following. The countries with the highest frequencies of the analysed ‘sustainability + noun’ collocations per million words in online news, i.e. Singapore, Malaysia, and Sri Lanka, belong to the medium-score SDG tier, which might suggest that sustainability discourse is more frequent in transitional development settings rather than in the countries considered as developed. In contrast, online news in many high-score SDG countries (e.g. the United Kingdom, the United States, Canada, Australia) show lower frequencies, which indicates that sustainability-related issues are not prominent in their online news. At the same time, the frequency of the analysed ‘sustainability + noun’ collocations in online news in Sri Lanka and the Philippines (as countries with high SDG spillover and high SDI scores) is relatively high. On the other hand, the frequency of these collocations is low in online news in Bangladesh, India, Pakistan and Jamaica, despite them having high SDG spillover and / or high SDI scores.

It has to be explicitly highlighted that the SDG, SDG spillover, and SDI scores and tiers are used as a very general and broad descriptive framework only and, as such, they by no means suggest any statistical (causal) correlations between the sustainability indicators and the frequency of occurrence of the analysed collocations. The same applies also for all semantic groups analysed in this paper.

Table 2 shows the most frequent collocates per each category with their normalised frequencies as well as the countries with the highest and the lowest country rankings respectively. Since the NOW Corpus includes Hong Kong as a separate unit (i.e. a separate sub-corpus) despite its handover by the UK to China, we include it in our analysis.

Table 2: The most frequent collocates per semantic category with highest/lowest country rankings

SEMANTIC CATEGORY	THE MOST FREQUENT COLLOCATE	FREQUENCY (PER MILLION WORDS)	HIGHEST/LOWEST OCCURENCE PER COUNTRY (PLUS FREQUENCY PER MILLION WORDS)
PLANNING AND STRATEGY	goal	9.17	Singapore (3.11) / Jamaica (0.37)
OPERATIONAL ACTION / IMPLEMENTATION	initiative	8.40	Singapore (3.09) / Bangladesh (0.41)
INSTITUTIONAL FRAMEWORKS	standard	4.40	Singapore (1.45) / Jamaica (0.14)
SUSTAINABILITY REPORTING	reporting	8.30	Hong Kong (4.47) / Jamaica (0.05)

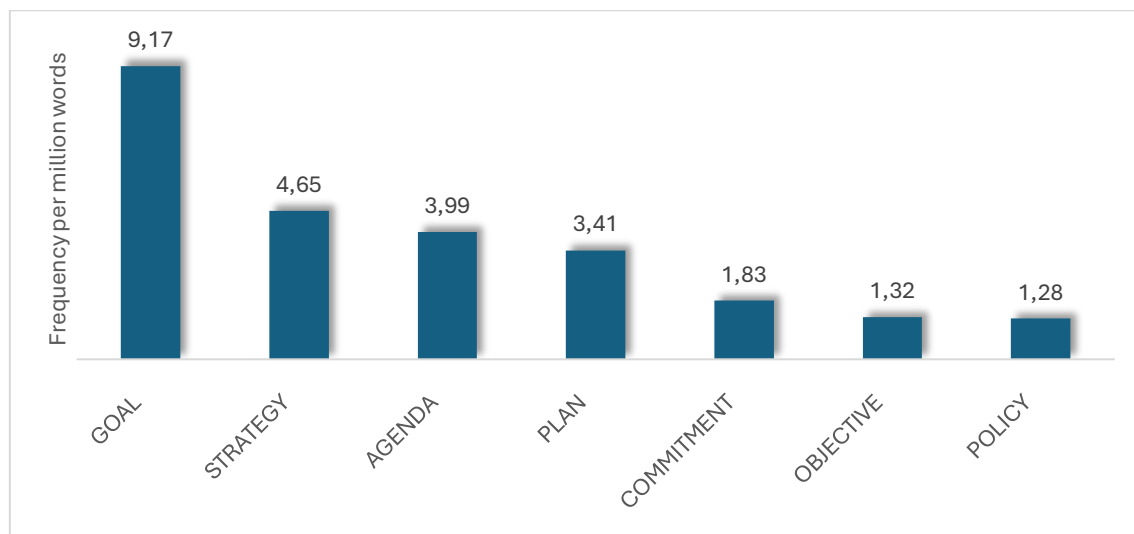
Table 2 shows that overall, the main collocates related to sustainability are *goal*, *initiative*, *reporting*, and *standard*, which may suggest that overall, the online news in English spanning across 20 analysed countries focuses on sustainability primarily as a future-oriented goal, as something that is to be achieved via concrete initiatives, monitored through reporting practices, and, to a lesser degree, guided by some type of institutional standards. What is also interesting is the fact that in the three out of four categories Singapore emerges as the most prominent national context with the highest frequencies.

In the following sections, we present and interpret the results of our analysis per individual semantic domain and national contexts in more detail.

4.1 Sustainability-Related Planning and Strategy Collocates

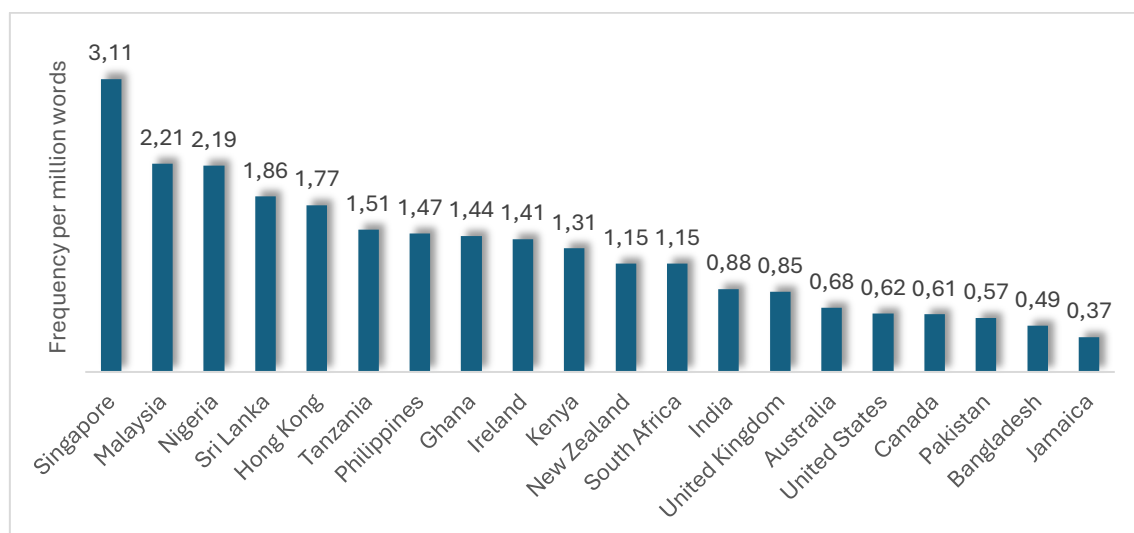
The collocates of the noun *sustainability* in this category include seven most frequently occurring nouns in the NOW corpus which encode strategic intent, future-oriented direction, long-term goal-setting, or intentional planning. These collocates are *agenda*, *commitment*, *goal*, *objective*, *plan*, *policy*, and *strategy*. Figure 3 shows their overall frequency per million words in the observed time-period (January 2010 – March 2026), and Figure 4 presents the cross-country distribution of sustainability-related planning and strategy collocates per 20 countries.

Figure 3 Total overall frequency of sustainability-related planning and strategy collocates in English-language online news across 20 countries



The above results clearly indicate a strong overall online news orientation towards goal-setting and strategic planning of sustainability. A rather prominent presence of the collocate *goal* suggests that sustainability is depicted by the online news as future-oriented and target-driven phenomenon. This is further supported by the presence of the collocates *strategy*, *agenda* and *plan*, which point to the fact that sustainability is also framed as a sign of public or organisational concern as well as organisational responsibility.

Figure 4 Cross-Country Distribution of Sustainability-Related Planning and Strategy Collocates per 20 Countries



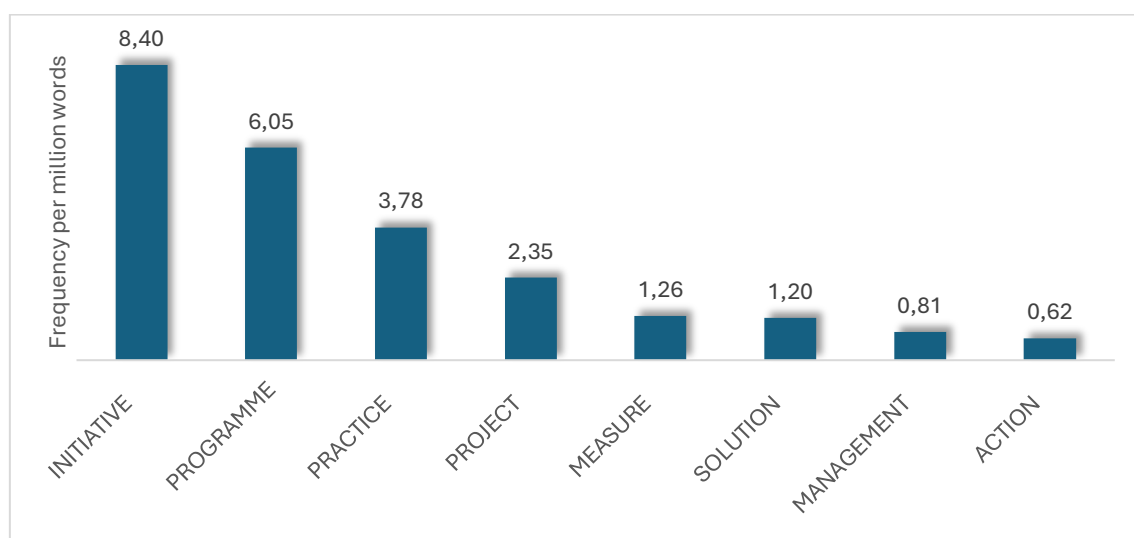
The distribution of overall frequencies of the collocates in this category shows that the highest scores are recorded for Singapore, Malaysia, Nigeria, Sri Lanka, and Hong Kong. Most of these countries belong to the medium-score SDG tier, while Singapore and Hong Kong have low SDG spillover scores and / or low SDI scores. This might indicate that online news reporting in contexts with weak ecological efficiency and significant impacts on other countries' development stresses sustainability as planning and strategy rather than as something already realised. By contrast, in countries with high SDG scores

and low SDI scores, such as the United Kingdom, Australia, Canada, and the United States, online news does not seem to report much on sustainability from the strategic planning viewpoint.

4.2 Sustainability-Related Operational Action / Implementation Collocates

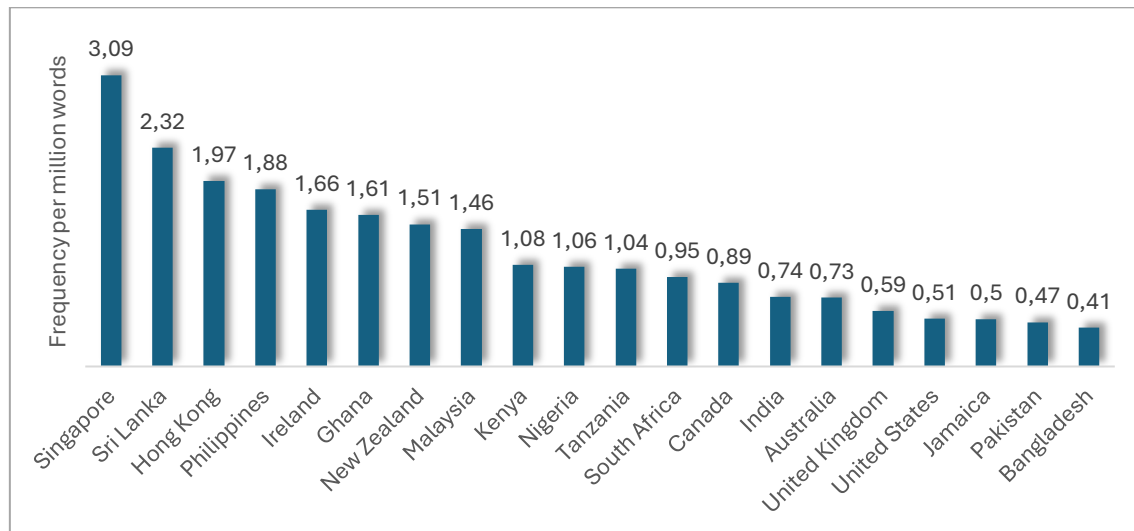
The eight most frequent collocates of the noun ‘sustainability’ pertaining to operational action / implementation in the NOW corpus, i.e. the nouns which encode practical actions, measures, programmes, operations, managerial processes, and execution, were: *action*, *initiative*, *management*, *measure*, *practice*, *programme*, *project*, and *solution*. Regarding the noun *programme*, both British English and American English spelling versions were included. Figure 5 gives their overall frequency per million words in the observed time-period (January 2010 – March 2026), while Figure 6 depicts the cross-country distribution of these collocates combined.

Figure 5 Total overall frequency of sustainability-related operational action / implementation collocates in English-language online news across 20 countries



The distribution of implementation-related collocates points to a strong emphasis on the realisations of sustainability. High frequencies of collocates *initiative* and *programme* show that sustainability at the implementation level is most prominently reported through organised and institutionally framed activities. These two collocates are followed by *practice* and *project* where the focus is on concrete and operational aspects of sustainability efforts in specific contexts. By contrast, collocates *measure*, *solution*, *management* and *action* are comparatively marginal in number.

Figure 6 Cross-Country Distribution of Sustainability-Related Operational Action / Implementation Collocates

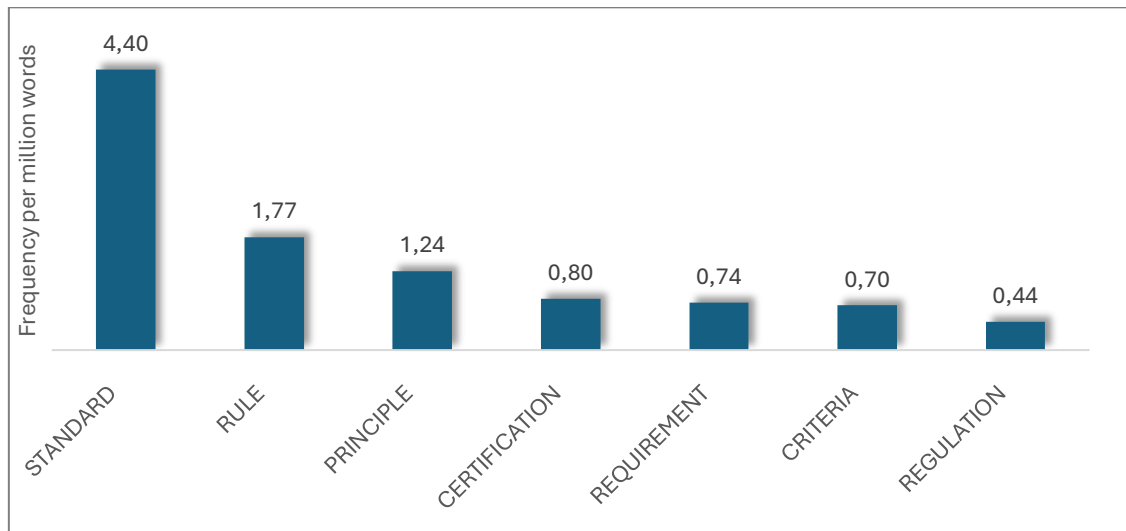


The data in Figure 6 show that the presence of ‘sustainability + noun’ collocates in this category in online news in high SDG score countries (e.g. the United States, the United Kingdom, Australia, Canada, New Zealand, and Ireland) is moderate to low, which might show that this topic is not as prominent in these countries as is in the countries with lower SDG scores. On the other hand, in countries with low SDG scores, the frequency of these collocates in online news is also rather low on average, especially in Bangladesh and Pakistan. The medium-tier countries, i.e. Singapore, Sri Lanka, and the Philippines, dominate this discourse. In high-score SDG spillover countries (e.g. Nigeria, Bangladesh, Kenya, Tanzania, and Pakistan), we observe moderate to low frequencies of these collocates. The country that stands out is Singapore – although having a low SDG spillover score, the frequency of the implementation-related sustainability collocates in online news is the highest among the 20 countries. Also, high SDI score countries (i.e. Sri Lanka and the Philippines) exhibit a high frequency of these collocates in online news, which may point to sustainability receiving a rather more attention in online news compared to some other contexts. On the other hand, in Jamaica, Bangladesh, and South Africa, this frequency is low to moderate. Interestingly, some of the highest frequencies of these collocates are observed for several low SDI score countries, i.e. Singapore, Hong Kong, Ireland, and New Zealand. Of course, we do not claim any statistical correlation between the frequency of the observed collocates and the three sustainability scores used as a broad contextual framework for this analysis.

4.3 Sustainability-Related Institutional Frameworks Collocates

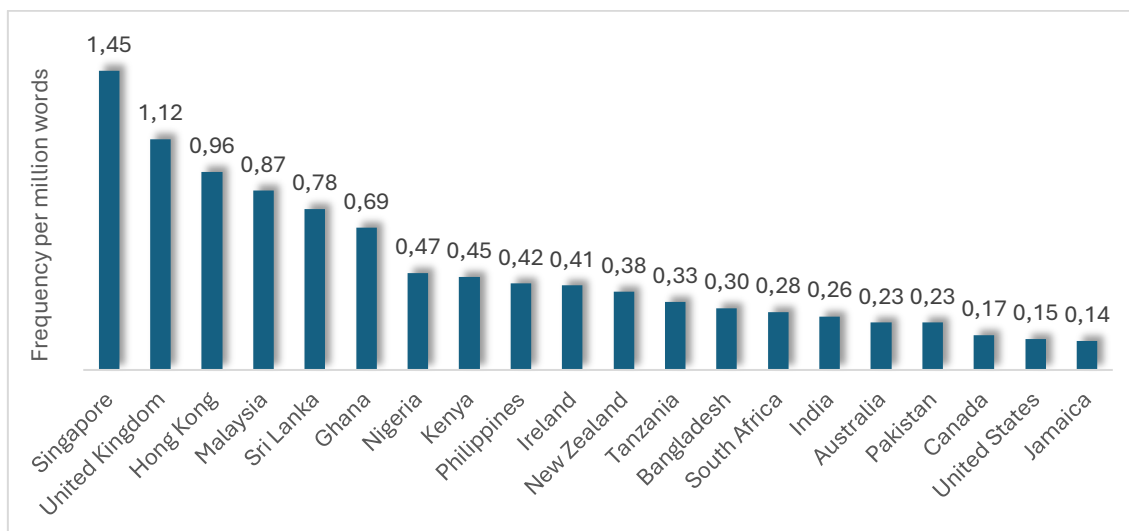
The seven most frequently occurring collocates of the noun *sustainability* in the NOW corpus related to institutional frameworks (i.e. the nouns associated with external standards, rules, compliance structures, principles, and certification) were: *certification*, *criteria*, *principle*, *regulation*, *requirement*, *rule*, and *standard*. Their overall frequency per million words in the observed time-period (January 2010 – March 2026) across all countries included in the corpus is presented in Figure 7, and Figure 8 provides their breakdown per 20 countries.

Figure 7 Total overall frequency of sustainability-related institutional frameworks collocates in English-language online news across 20 countries



According to data in Figure 7, the overall frequency distribution of collocates related to regulatory frameworks suggests that online news discourse primarily frames sustainability via standardisation rather than via regulation, which is predominantly visible through a rather high frequency of the collocate *standard* compared to other collocates in this category. At the lower end of the scale there is the collocate *regulation* as the least frequent one in this category, which may indicate that online news does not pay significant attention to sustainability as something that is governed by legal or institutional authorities, which answers our first research question for this sub-section.

Figure 8 Overall frequency of sustainability-related institutional frameworks collocates per 20 countries



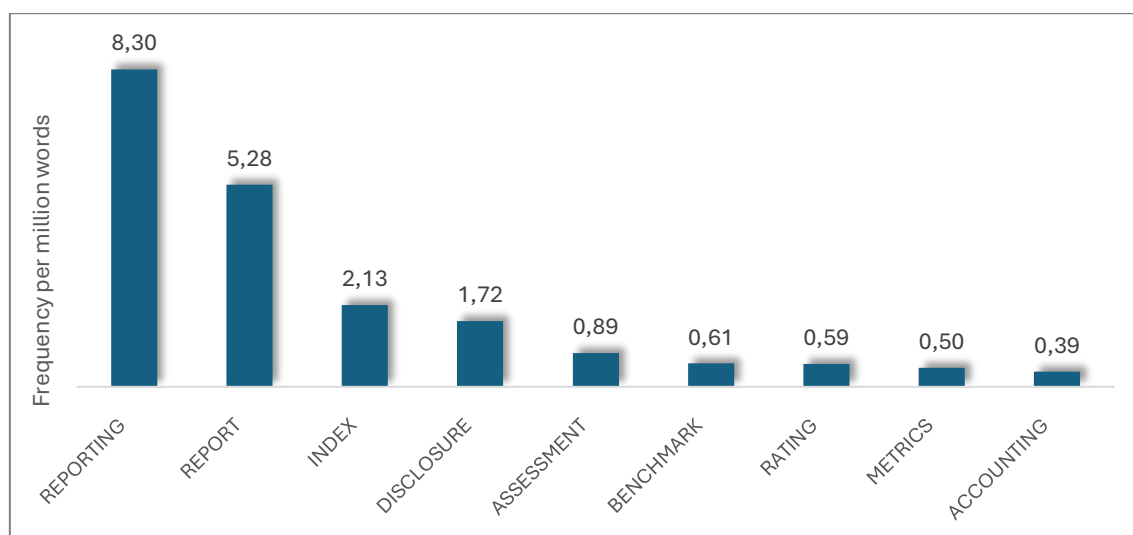
As the answer to our second and third research questions for this sub-section, the distribution of overall framework collocates across the 20 analysed countries' online news shows the following. The highest overall frequencies of institutional frameworks collocates are found in the online news in Singapore, the United Kingdom, and Hong Kong, as countries with medium to high SDG Index scores and low SDG spillover scores and / or low SDI scores. The online news from countries such as Malaysia, Sri Lanka, Ghana, Nigeria, and Kenya, which mainly have medium SDG Index scores and SDI scores while having high SDG spillover scores, show moderate framework collocate frequencies. By contrast,

the online news in Jamaica, the Philippines, Bangladesh, and South Africa, for instance, display relatively low frequencies of sustainability-related institutional frameworks collocates. Overall, these findings suggest that online news reporting about regulatory frameworks (indicating global responsibility) is the strongest in countries with low SDG spillover / SDI scores, which nevertheless have high levels of SDG progress.

4.4 Sustainability Reporting-Related Collocates

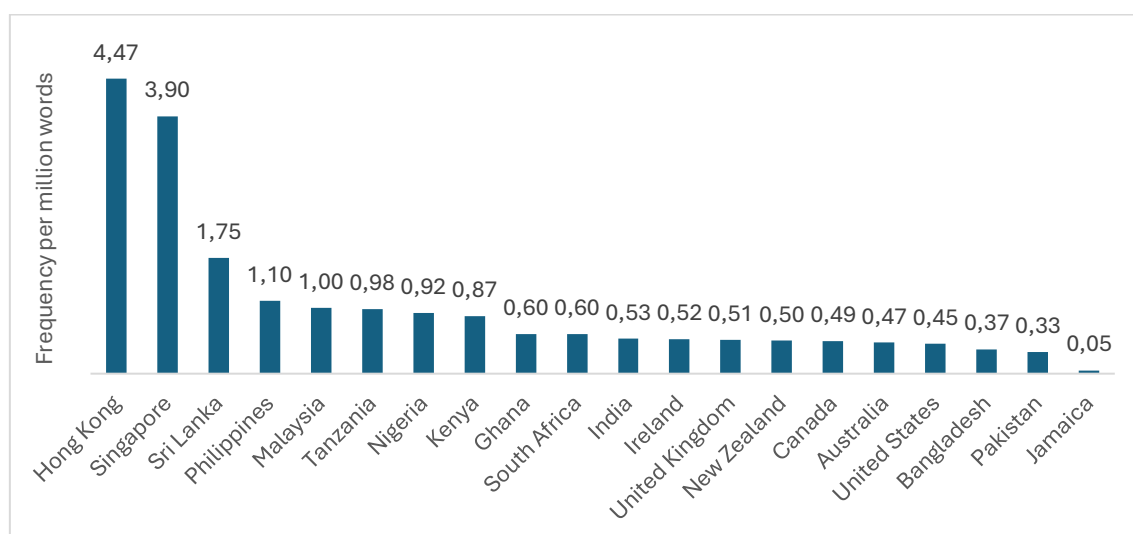
The nine most frequent collocates of the noun *sustainability* in the NOW corpus in the time-period January 2010 – March 2026 relating to disclosure, measurement, evaluation, analytics, and sustainability reporting outputs, were *accounting*, *assessment*, *benchmark*, *disclosure*, *index*, *metrics*, *rating*, *report*, and *reporting*. Figure 9 depicts their overall frequency per million words in the observed time-period (January 2010 – March 2026) across all countries included in the corpus. Figure 10 illustrates the cross-country distribution of sustainability reporting-related collocates.

Figure 9 Total overall frequency of sustainability reporting-related collocates in English-language online news across 20 countries



The overall frequency distribution of the sustainability reporting-related collocates with *reporting* and *report* being the most frequent ones shows that sustainability is frequently represented as something which is both documented in writing and communicated to the interested parties. Together with the collocate *disclosure*, this highlights the attention to transparency and accountability of sustainability practises in global online news. The collocates *index*, *rating*, and *metrics* show that the evaluative, quantitative aspect of sustainability is also addressed, although to a lesser extent. Finally, a somewhat low frequency of collocate *accounting* shows that this field is far from central in online news discourse when it comes to sustainability reporting-related issues, which adds to the answer to our first research question.

Figure 10. Overall frequency of sustainability reporting-related collocates per 20 countries



The data in the above figure reveal that online news reports which include the analysed collocates are rather scarce, with a strong concentration of reporting discourse in just a small number of countries, where Hong Kong and Singapore strongly dominate. Regardless of whether the countries have high or low SDG, SDG spillover and or SDI scores, the online news does not frequently discuss sustainability reporting.

Taken together and considering the characteristics of the NOW corpus, our findings give insightful answers to our research questions. Concerning the first research question, our analysis shows that the most frequent 'sustainability + noun' collocations in the analysed corpus pertain to the semantic categories of planning and strategy and operational action / implementation. Regarding the second research question, the normalised frequency analysis revealed a substantial cross-country variation, with rather high frequency rates in a number of developing countries and comparatively lower frequencies in the developed (global North) countries. Finally, the results suggest a descriptive relationship (not statistical) between individual countries' sustainability performance scores and the frequency of sustainability-related topics in English-language online news.

5 Study Conclusions

The aim of the research presented in this paper was to examine how sustainability is discursively presented in English-language online news across 20 countries around the world. Specifically, particular attention was devoted to the frequency and distribution of 'sustainability + noun' collocations across four semantic domains, i.e. planning and strategy, operational action, institutional frameworks, and sustainability reporting. By adopting a corpus-driven approach to obtain quantitative data and analysing the obtained results in the context of countries' SDG, SDG spillover, and SDI scores, the study set out to investigate how sustainability discourse differs across national and developmental contexts.

5.1 Overall Findings

With regard to the three research questions guiding this study, we have found the following.

Concerning the first research question, sustainability is most frequently reported in online news from the planning and strategic as well as implementation perspectives rather than from the perspective of reporting and institutional governance perspectives. These results point to the fact that online news

discourse (as discourse aimed at general public) tends to prioritise more practical and future-oriented or target-driven process representations of sustainability. Looking at the four semantic categories, the following can be concluded. The frequency of the related collocates in the planning and strategy category shows that online news highlight sustainability as an issue of long-term organisational strategic responsibility.

As regards the second and third research questions, the results of our cross-country comparison show a rather considerable variation in the normalised frequencies of the analysed cross-country collocations across the 20 national contexts. First, a relatively low frequency of these collocates in developed countries suggests that sustainability may no longer be treated as a highly newsworthy topic. Second, the collocates in the category of operational action and implementation show that online news tends to focus more on concrete / practical sustainability-related initiatives, programmes and practices rather than addressing sustainability-related measures or management. High frequency of the collocates in this category in developing economies may indicate that sustainability is a more prominent developmental objective in these environments than in highly developed countries. Third, sustainability reporting category stressed another important sustainability-related dimension in online news. It is noteworthy that the majority of reporting-related collocates were observed in a very limited number of countries, which may suggest that, overall, this topic has either not become equally important across all analysed online news contexts or that it is perhaps not something that would be interesting for broad, general audience. Finally, online news pays the least attention to sustainability-related institutional frameworks, which may point to the fact that this aspect of sustainability is not prioritised by online news (as meant for general public), which, as stated above, is more concerned with visible sustainability-related actions and strategic issues than governance frameworks.

5.2 Significance of a Corpus-Driven Linguistic Study for Economics and Practice or Policy

The present linguistic study has a place in the context of economics as well. Namely, by looking into how sustainability, as something which now permeates global policy and public discourse by addressing the social, economic, and environmental pillars of global development, is linguistically presented in online news via 'sustainability + noun' collocations, it offers insight into the ways in which sustainability-related issues are prioritised and communicated in online news in English worldwide.

A major strength of our study is the corpus-driven methodology itself. The NOW corpus allowed for an analysis of authentic and large-scale language data across 20 countries worldwide in a time span of more than 15 years. This approach also ensured empirical reliability and systematic quantitative comparisons across 20 national contexts. Another strength of this study lies in its interdisciplinarity. Because we combined corpus linguistics and economic and social data, we argue that the research shows how linguistic methodologies can contribute to the understanding of global issues such as sustainability. As our sample comprised news reports from 20 countries worldwide in a long timeframe, we were able to identify stable and recurring lexical patterns and sustainability-related news focus in English worldwide.

5.3 Study Limitations

Despite giving insights into the representation of sustainability in English-language online news, the study was limited by the following.

First, we only analysed the English-language online news available in the NOW corpus, which excluded potential sustainability-related news in local languages. Thus, our findings cannot be considered as fully reflecting national online news reporting of sustainability as designed for this study. Second, our study exclusively focused on the frequency and semantic association of collocational patterns

comprising the noun sustainability and selected collocates. Thus, this study cannot fully account for a broader contextual, rhetorical or ideological context in which these collocations occur. Third, the categorisation of collocates into the selected four domains involves a degree of researcher interpretation; thus, some collocated may potentially overlap across categories depending on the context. Finally, while the study interprets the results alongside 20 countries' SDG, SDG spillover, and SDI scores, we do not presume that this interpretation is directly causal. That is, the frequency levels of the selected collocations in online news do not necessarily correspond to the levels of sustainability implementation in a given country. Furthermore, online news reporting may also be influenced by journalistic preferences and practices. Also, we did not analyse the changes in the frequency of the selected collocations in the observed 2010 – 2026 time period.

5.4 Future Research Recommendations

Stemming from our study limitations, several potential venues for future research emerge. Future studies could integrate a deeper, qualitative discourse analysis, e.g. KWIC analysis to examine contextual meanings and functions of selected sustainability collocates in specific news contexts. They might include other semantic domains, e.g. innovation, finance and investment, technology, labour / social issues, and organizational structure and roles.

The research questions could also be expanded to include comparative analyses of online news, political speeches, social online news discourse, corporate reports, policy documents, regulatory developments, public-opinion data, etc. This might shed more light on how sustainability is communicated across various genres and communicative settings, and whether or how online news reflects sustainability trends and developments in a single country or a group of countries.

Additionally, studies could focus on longitudinal patterns of sustainability discourse regarding the frequency, prominence, or contextual use of specific 'sustainability + noun' collocations. Namely, such studies could examine if the changes in sustainability discourse in online news in English correspond with any changes in environmental or specific social events (e.g. international climate agreements, the COVID-19 pandemic, geopolitical conflicts, environmental disasters), policy or regulation requirements, etc., in a single country or globally. This would extend the cross-sectional comparison presented in this study and would show the stability (or rise / decline) of the identified patterns over time. Also, the analysis could expand to multilingual online news corpora, where available, which would add to a more profound understanding of current sustainability-related discourse in online news, not limited to the English language only.

References

- Baker, P. (2009). *Using corpora in discourse analysis*. Continuum.
- Barkemeyer, R., Figge, F., & Holt, D. (2013). Sustainability-Related Media Coverage and Socioeconomic Development: A Regional and North–South Perspective. *Environment and Planning C: Government and Policy*, 31(4), 716-740. <https://doi.org/10.1068/c11176j>
- Barkemeyer, R., Figge, F., Holt, D., & Hahn, T. (2024). What the papers say: Trends in sustainability: A comparative analysis of 115 leading national newspapers worldwide. In *Landmarks in the history of corporate citizenship* (pp. 69-86). Routledge.
- Barkemeyer, R., Givry, P., & Figge, F. (2018). Trends and patterns in sustainability-related media coverage: A classification of issue-level attention. *Environment and Planning C: Politics and Space*, 36(5), 937-962. <https://doi.org/10.1177/2399654417732337>
- Biber, D., Csomay, E., & Cortes, V. (2015). *Corpus-based Research in Applied Linguistics : Studies in Honor of Doug Biber* [Book]. John Benjamins Publishing Company.

- <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=941415&lang=sl&site=ehost-live>
- Bosshard, A. (2000). A methodology and terminology of sustainability assessment and its perspectives for rural planning. *Agriculture, Ecosystems & Environment*, 77(1), 29-41. [https://doi.org/https://doi.org/10.1016/S0167-8809\(99\)00090-0](https://doi.org/https://doi.org/10.1016/S0167-8809(99)00090-0)
- Bova, D. M. (2022). A vocabulary for sustainability. *Sustainable Environment*, 8(1), 2113542. <https://doi.org/10.1080/27658511.2022.2113542>
- Davies, M. (n.d.). *English-Corpora: NOW* <https://www.english-corpora.org/now>
- Fischer, D., Haucke, F., & Sundermann, A. (2017). What does the media mean by 'sustainability' or 'sustainable development'? An empirical analysis of sustainability terminology in German newspapers over two decades. *Sustainable development*, 25(6), 610-624. <https://doi.org/https://doi.org/10.1002/sd.1681>
- Glavič, P., & Lukman, R. (2007). Review of sustainability terms and their definitions. *Journal of Cleaner Production*, 15(18), 1875-1885. <https://doi.org/https://doi.org/10.1016/j.jclepro.2006.12.006>
- Gries, S. T., Wulff, S., & Davies, M. (2010). *Corpus-linguistic Applications : Current Studies, New Directions*. Brill | Rodopi. <https://login.ezproxy.lib.ukm.si/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=e000xww&AN=307521&lang=sl&site=eds-live>
- Hickel, J. (2020). The sustainable development index: Measuring the ecological efficiency of human development in the anthropocene. *Ecological Economics*, 167, 106331. <https://doi.org/https://doi.org/10.1016/j.ecolecon.2019.05.011>
- Jaspe Nieto, J., Ortega Larrea, A. L., & Bordonado Bermejo, M. J. (2025). Evolution of Economic Sustainability Terminology in EU Legislation: A Descriptive and Quantitative Perspective. *Transformations in Business & Economics*, 24(3).
- Kelman, I. (2021). Words without meaning? Examining sustainable development terminology through small states and territories. *Small States & Territories*, 4(2), 231-244. <https://www.um.edu.mt/library/oar/handle/123456789/83375>
- MacGregor Pelikánová, R. (2025). Terminology and Scientific Background of Sustainability. In R. MacGregor Pelikánová (Ed.), *Sustainability in Europe: Roots and Evolution of the Current Legal Regime* (pp. 35-47). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-74689-5_3
- McEnery, T., & Hardie, A. (2012). *Corpus Linguistics : Method, Theory and Practice*. Cambridge University Press.
- Moore, J. E., Mascarenhas, A., Bain, J., & Straus, S. E. (2017). Developing a comprehensive definition of sustainability. *Implementation Science*, 12(1), 110. <https://doi.org/10.1186/s13012-017-0637-1>
- Sachs, J. D., Lafortune, G., Fuller, G., & Iablonski, G. (2025). *Financing Sustainable Development to 2030 and Mid-Century. Sustainable Development Report 2025*.

Appendices

Appendix A – Sustainability-Related Planning and Strategy Collocates Corpus Data

	CORPUS SIZE (MILL. WORDS)	FREQUENCY (PER MILLION WORDS)						
COUNTRY		AGENDA	COMMITMENT	GOAL	OBJECTIVE	PLAN	POLICY	STRATEGY
Australia	1.769.00	0.07	0.05	0.21	0.04	0.08	0.06	0.17
Bangladesh	126	0.06	0.06	0.14	0.04	0.07	0.04	0.08

The Semantic Construction of Sustainability in English-Language Online News: A Cross-Country Perspective

Canada	2.966.00	0.02	0.04	0.22	0.02	0.16	0.04	0.11
Ghana	208.2	0.31	0.09	0.52	0.04	0.23	0.02	0.23
Hong Kong	89	0.15	0.11	0.74	0.22	0.02	0.09	0.44
India	3.183.20	0.09	0.05	0.51	0.06	0.03	0.03	0.11
Ireland	1.445.00	0.15	0.09	0.50	0.1	0.14	0.07	0.36
Jamaica	82.6	0.06	0.01	0.12	0.02	0.08	0.02	0.06
Kenya	322	0.32	0.08	0.41	0.07	0.11	0.05	0.27
Malaysia	454.5	0.62	0.16	0.88	0.09	0.08	0.16	0.22
New Zealand	801.9	0.06	0.18	0.46	0.05	0.09	0.05	0.26
Nigeria	1.278.00	0.22	0.06	0.33	0.04	1.26	0.04	0.24
Pakistan	540.7	0.09	0.03	0.27	0.05	0.04	0.01	0.08
Philippines	555.5	0.35	0.15	0.55	0.05	0.1	0.06	0.21
Singapore	608.4	0.47	0.36	1.05	0.11	0.19	0.29	0.64
South Africa	1.006.70	0.07	0.08	0.53	0.06	0.1	0.04	0.27
Sri Lanka	193.6	0.38	0.09	0.61	0.12	0.18	0.07	0.41
Tanzania	48.1	0.37	0.04	0.54	0.04	0.31	0.04	0.17
United Kingdom	4.498.70	0.1	0.06	0.28	0.07	0.06	0.07	0.21
United States	9.763.00	0.03	0.04	0.30	0.03	0.08	0.03	0.11

Appendix B – Sustainability-Related Operational Action / Implementation Collocates Corpus Data

	CORPUS SIZE (MILL. WORDS)	FREQUENCY (PER MILLION WORDS)							
COUNTRY		ACTION	INITIATIVE	MANAGEMENT	MEASURE	PRACTICE	PROGRAMME	PROJECT	SOLUTION
Australia	1.769.00	0.03	0.28	0.02	0.07	0.10	0.13	0.07	0.03
Bangladesh	126	0.05	0.17	0.02	0.02	0.03	0.08	0.02	0.02
Canada	2.966.00	0.03	0.27	0.02	0.03	0.08	0.10	0.33	0.03
Ghana	208.2	0.00	0.51	0.08	0.07	0.16	0.58	0.18	0.03
Hong Kong	89	0.03	0.72	0.15	0.07	0.53	0.28	0.09	0.10
India	3.183.20	0.01	0.36	0.02	0.07	0.11	0.07	0.05	0.05
Ireland	1.445.00	0.15	0.37	0.02	0.10	0.14	0.62	0.22	0.04
Jamaica	82.6	0.06	0.08	0.04	0.01	0.05	0.24	0.01	0.01
Kenya	322	0.02	0.39	0.04	0.08	0.16	0.28	0.09	0.02
Malaysia	454.5	0.01	0.60	0.02	0.07	0.36	0.27	0.06	0.07
New Zealand	801.9	0.05	0.38	0.01	0.09	0.40	0.39	0.14	0.05
Nigeria	1.278.00	0.01	0.34	0.02	0.05	0.13	0.39	0.07	0.05
Pakistan	540.7	0.00	0.21	0.03	0.04	0.04	0.10	0.04	0.01
Philippines	555.5	0.03	0.75	0.02	0.07	0.28	0.49	0.17	0.07
Singapore	608.4	0.06	0.89	0.14	0.13	0.46	0.85	0.20	0.36
South Africa	1.006.70	0.02	0.34	0.01	0.07	0.13	0.25	0.09	0.04
Sri Lanka	193.6	0.03	1.04	0.08	0.10	0.31	0.34	0.31	0.11

The Semantic Construction of Sustainability in English-Language Online News: A Cross-Country Perspective

Tanzania	48.1	0.00	0.31	0.04	0.04	0.15	0.36	0.10	0.04
United Kingdom	4.498.70	0.02	0.20	0.01	0.05	0.08	0.13	0.07	0.03
United States	9.763.00	0.01	0.19	0.02	0.03	0.08	0.10	0.04	0.04

Appendix C – Sustainability-Related Institutional Frameworks Collocates Corpus Data

	CORPUS SIZE (MILL.WORDS)	FREQUENCY (PER MILLION WORDS)						
COUNTRY		CERTIFICATION	CRITERIA	PRINCIPLE	REGULATION	REQUIREMENT	RULE	STANDARD
Australia	1.769.00	0.03	0.02	0.03	0.01	0.01	0.03	0.10
Bangladesh	126	0.03	0.00	0.02	0.02	0.02	0.08	0.13
Canada	2.966.00	0.02	0.01	0.02	0.00	0.01	0.01	0.10
Ghana	208.2	0.05	0.04	0.08	0.03	0.06	0.17	0.26
Hong Kong	89	0.03	0.06	0.10	0.02	0.08	0.06	0.61
India	3.183.20	0.02	0.02	0.03	0.01	0.02	0.04	0.12
Ireland	1.445.00	0.03	0.06	0.02	0.02	0.04	0.10	0.14
Jamaica	82.6	0.00	0.04	0.02	0.00	0.00	0.02	0.06
Kenya	322	0.05	0.03	0.04	0.02	0.04	0.09	0.18
Malaysia	454.5	0.13	0.08	0.09	0.02	0.08	0.05	0.42
New Zealand	801.9	0.04	0.04	0.08	0.02	0.05	0.03	0.12
Nigeria	1.278.00	0.01	0.01	0.11	0.02	0.01	0.12	0.19
Pakistan	540.7	0.01	0.01	0.03	0.02	0.02	0.05	0.09
Philippines	555.5	0.03	0.02	0.15	0.02	0.02	0.02	0.16
Singapore	608.4	0.20	0.11	0.12	0.04	0.12	0.13	0.73
South Africa	1.006.70	0.02	0.03	0.05	0.01	0.04	0.01	0.12
Sri Lanka	193.6	0.06	0.03	0.11	0.03	0.05	0.00	0.50
Tanzania	48.1	0.00	0.02	0.10	0.00	0.02	0.02	0.17
United Kingdom	4.498.70	0.02	0.05	0.03	0.12	0.03	0.72	0.15
United States	9.763.00	0.02	0.02	0.01	0.01	0.02	0.02	0.05

Appendix D – Sustainability Reporting-Related Collocates Corpus Data

	CORPUS SIZE (MILL.WORDS)	FREQUENCY (PER MILLION WORDS)								
COUNTRY		ACCOUNTING	ASSESSMENT	BENCHMARK	DISCLOSURE	INDEX	METRICS	RATING	REPORT	REPORTING
Australia	1.769.00	0.00	0.01	0.02	0.01	0.07	0.02	0.06	0.17	0.11
Bangladesh	126	0.01	0.01	0.02	0.00	0.02	0.02	0.05	0.05	0.19
Canada	2.966.00	0.02	0.02	0.01	0.03	0.10	0.01	0.03	0.21	0.06
Ghana	208.2	0.01	0.05	0.02	0.02	0.11	0.02	0.00	0.23	0.14
Hong Kong	89	0.08	0.07	0.21	0.82	0.44	0.04	0.08	0.85	1.88
India	3.183.20	0.01	0.05	0.02	0.02	0.10	0.02	0.02	0.15	0.14
Ireland	1.445.00	0.01	0.02	0.01	0.01	0.04	0.05	0.02	0.21	0.15
Jamaica	82.6	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.02	0.00
Kenya	322	0.00	0.04	0.01	0.02	0.03	0.06	0.01	0.48	0.22

The Semantic Construction of Sustainability in English-Language Online News: A Cross-Country Perspective

Malaysia	454.5	0.02	0.07	0.05	0.09	0.14	0.02	0.09	0.15	0.37
New Zealand	801.9	0.00	0.02	0.01	0.01	0.04	0.02	0.05	0.25	0.10
Nigeria	1.278.00	0.02	0.05	0.02	0.11	0.14	0.01	0.01	0.25	0.31
Pakistan	540.7	0.00	0.01	0.01	0.02	0.04	0.01	0.00	0.13	0.11
Philippines	555.5	0.02	0.04	0.00	0.04	0.07	0.02	0.02	0.26	0.63
Singapore	608.4	0.07	0.08	0.13	0.26	0.33	0.07	0.07	0.89	2.00
South Africa	1.006.70	0.02	0.03	0.01	0.03	0.13	0.04	0.02	0.17	0.15
Sri Lanka	193.6	0.04	0.13	0.03	0.09	0.09	0.04	0.01	0.22	1.10
Tanzania	48.1	0.00	0.15	0.00	0.06	0.10	0.00	0.00	0.25	0.42
United Kingdom	4.498.70	0.03	0.02	0.01	0.06	0.06	0.01	0.02	0.14	0.16
United States	9.763.00	0.03	0.01	0.02	0.01	0.08	0.02	0.02	0.20	0.06