Hapres | Journal of Sustainability Research

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Article

Insights from the Analysis of Sustainability Reporting Across UK Real Estate Companies

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ABSTRACT

Organisational sustainability reporting can act as a mechanism for the United Nations to track the progress of the Sustainability Development Goals (SDGs) and concomitantly provide clarity of business activities and performance to a range of stakeholders. This study aims to assess the reporting of sustainability-related matters, and notably the incorporation and prioritisation of the SDGs, across the real estate market of the UK by interrogating both sustainability and annual reports. Content analysis was utilised to consider the qualitative aspects of the text itself, subsequently a scoring process was employed to uncover a quantitative view. Results demonstrate that, although there is acknowledgement of the sustainability agenda among these companies, there is a focal cluster of SDGs that explicitly apply to the property sector (namely SDGs 11,12,13) and a least-important group of goals (namely SDGs 1,2,6,9,10,14,15,16), which do not relate-well with real estate activities. Based upon the calculated average quality scoring (2.19 out of 5), findings reveal firms generally convey their sustainability activities in a qualitative manner with minimal incorporation of quantitative key performance indicators. Moreover, SDG 13 achieves one of the highest scores (2.99) and this suggests the greatest focus of company intentions are directed towards climate action. However, it is important to also note that very few companies discuss specific SDG targets in their reports. Based on this evidence, it is proposed that if the companies employed goal-specific targets it would allow for a greater overview of sector performance on the goals, year-on-year, and also counter-balance concerns that firms are green-washing (or rainbow-washing) their communications and the emergence of a disconnect between proclaimed intentions and genuine measurable actions.

KEYWORDS: sustainability development goals; SDGs; annual reporting; content analysis; green-washing

Received: 27 February 2023
Accepted: 14 April 2023
Published: 20 April 2023

ABBREVIATIONS

UN, United Nations; SDGs, Sustainable Development Goals; CSR, Corporate Social Responsibility; SR, Sustainability Reporting; AR, Annual Reports; GRI, Global Reporting Initiative

INTRODUCTION

As the world's population continues to increase and concerns around environmental 'tipping points' become widespread, accountable and proactive action becomes a constitutional urgency for many nations and organisations. The United Nations (UN) Sustainability Development Goals (SDGs) provide a conceptual framework that aims to transform our social, economic, environmental and political systems to bring peace, prosperity, and opportunity for all on a healthy planet [1].The goals were established in 2015, with a 2030 agenda of incorporating 17 goals, 169 targets and 230 indicators, with 193 countries signing the agreement; the goals range from eradicating poverty, reducing inequalities and urgent action to combating climate change [2].

To achieve the 2030 agenda, adoption from the private sector is crucial. A key method is to incorporate legitimacy and transparency in the way organisations conduct practice [3]. A growing method is through the utilisation of Corporate Social Responsibility (CSR) and Sustainability Reporting (SR), where companies can voluntarily communicate their current efforts towards social, economic, and environmental change and provide effective communication to stakeholders [4,5]. This allows for a widespread conversation about business performance, actions, and in addition, acts as an interface between business and society [6]. The SDGs have placed emphasis on governments and private sector collaborations, focusing on closing the climate gap through investment and leadership innovation [7]. Utilisation of the private sector aids mobilisation of capital and local politics, where governments would be unable to infiltrate on a wide scale, this can be incentivised through rewards for sustainable practices.

Effective communication interlinks with the social economic theory of signalling and legitimacy, whereby firms actively disclose their sustainability performance through the aforementioned methods to 'increase transparency, enhance brand value, reputation, signal competitiveness and support corporate information', outlining plentiful benefits of comprehensive reporting [8]. A favourable way to ensure legitimacy is recognised by adhering to reporting standards that provide widespread structure and comparability, such as the Global Reporting Initiative (GRI). This has been adopted by many industries and provides a set of internationally accepted guidelines for sustainability reporting, which are updated regularly; the most up-to-date versions were replaced in 2018 as the 'GRI–Standards'. The GRI framework is based on the 'triple-bottom line' perspective of economic, social, and environmental

performance which integrates key aspects of business activity but is not an exhaustive list [9,10].

Sector-specific action is required to ensure the success of the SDGs at a corporate level [11,12]. The real estate industry, by practice, is analogous with raw materials and construction, contributing circa 40% to global atmospheric emissions [13]. The expansion of urbanisation is a leading factor, with predictions that 68% of the world's population will live in cities by 2050, generating increased demand for accommodation, workspaces, and entertainment facilities, all of which rely on property [14]. In recent history, some developing nations (such as India, China and Nigeria) have experienced vast economic booms and wealth creation due to globalisation; this induces an externality of greater demand for housing and infrastructure, straining our climate. Nevertheless, economic growth should not be discouraged as this itself brings technological innovation. Moreover, developing nations should not pay for the rapid development and carbon consumption of Western nations in recent history. Therefore, there is increasing pressure on the real estate sector to bolster efforts to support the goals, specifically the likes of SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure) and SDG 11 (Sustainable Cities and Communities) to ensure this progress can continue, sustainably.

The governing body of the real estate sector, the Royal Institute of Chartered Surveying (RICS), highlight a number of objectives for the industry: promote awareness, learning and dialogue among stakeholders around SDGs, facilitate closer collaboration and mobilise sector participants to scale-up incentives and become drivers of corporate sustainability [15]. Rashidfarokhi et al. [16] suggests the real estate sector is lagging behind other sectors on sustainability reporting and requires encouragement to achieve the RICS objectives. A common theme around SDGs is the importance of delivering reliable information to stakeholders to reduce asymmetric information; therefore, here it will be assessed how this is being achieved in the UK real estate sector. In order to uncover this, the researcher has drawn from reputable authors in the field of sustainability reporting, it is highlighted that stakeholder engagement is most successfully derived from SRs [17,18]. Upon identifying an assortment of SRs across a number of sectors, it is clear there is no universal method of delivery; some companies choose to report through the means of a large annual reports (AR) containing circa 300 pages and integrating financial and non-financial information; alternatively, others may produce standalone corporate responsibility/sustainability reports of a shorter manner, focusing on their sustainability commitment. Therefore, to capture a wide dataset, this study refers to SRs as any means of reporting that discusses sustainability and the SDGs.

This study endeavours to fill a gap in the current SDG literature; recent papers have assessed quality of sustainability and SDG communications within various settings. For example, a large-scale global assessment, a

single European industry and a country-specific setting [3,6,16,19–21]. These studies have their respective benefits and weaknesses; however, a gap prevails of an industry and country-specific investigation. Therefore, there is a need to assess the UK-specific real estate market, due to its commercial property presence in Europe and is home to the headquarters of several world-leading property firms.

The overarching purpose of this study is to assess the reporting of sustainability matters, and notably the incorporation and prioritisation of the UN SDGs, in the business activities of the UK real estate market.

BACKGROUND

Many companies choose to disclose their corporate social responsibility through methods of SRs or ARs to increase transparency and quench stakeholder interest [22]. Dobers and Springett [23] highlight that such reports can be problematic and contestable, leaving room for reinterpretation. Reports may also be susceptible to manipulation by those groups of individuals who produce them. Lu et al. [24] notes that trends in literature have shifted from the issues of CSR, such as the value it supposedly brings to a firm, to instead, the benefits for society that an effective CSR holds. This paper also provides a framework to broadly divide the literature into three groups: “antecedent”, which focuses on firm’s engagement in CSR, “outcome” that examines consequences of CSR and “process” revolves around implementation and stakeholder engagement.

In recent academia, there is consideration of the quality of information provided by companies, yielding apprehension of asymmetric information and signalling, and in particular, the term ‘green-washing’—this is the portrayal of deception in all forms of communication; benefiting brand image by misleading information [25,26]. This has led to investigations into legitimacy of corporate sustainability reporting. Comyns et al.’s [27] exploration recruits social economist George Akerlofs Theory: ‘Market for Lemons’ who demonstrates the presence of asymmetric information in certain consumer markets and how enriched product-knowledge can reduce it [28]. This model was extended into sustainability reporting, concluding that three ‘types’ of information can support a report; ‘search information’ which can be easily obtained by the public and thus aids information quality, ‘experience information’ that takes time to research and understand but has greater impact on improving quality, and finally, ‘credence information’, which requires a level of regulation to guarantee quality. Search and experience information can improve quality reporting without governance or regulatory interference due to market forces; however, Comyns et al. [27] highlights the importance of assurance and regulation to verify credence information. On a large scale this proves challenging as country-level regulatory requirements differ, therefore the likes of GRI reporting frameworks and standardisation can facilitate such affirmation. However,

in their study there is minimal empirical evidence undertaken and serves more as a supporting contribution to the body of literature with theoretical predictions, in turn, more evidence is needed to uncover which type of information is most prevalent in CSRs.

A sample study by Petrescu et al. [29] assessed companies linked to the Romanian market, identifying the benefits of elaborating on sustainability reporting, with multiple benefits for almost all managers (95.5% of respondents) across different sectors including improving long-term management vision, strategy and policies, waste management and new opportunities for upgrading machinery to reduce energy consumption. From the sample, managers recognise the importance of a sustainability strategy to stay competitive in their respective markets through delivering information to stakeholders. This paper adds value to the body of literature as it is within the realm as key papers from Fifka et al. [30] and An et al. [31] who similarly focused on Finland, UK and New Zealand, respectively, demonstrating the bias of studies towards developed economies. Therefore, drawing attention to emerging markets, such as Romania, allows recognition for the efforts being made by companies in these developing regions and highlights that the focus of sustainability is widespread across all economies. Although, future research may benefit from country-specific studies being undertaken by authors of external nationalities. Petrescu et al. [29] all hold Romanian nationality which presents a somewhat bias to the benefits of SR in Romania without considering green-washing, therefore a diverse range of nationalities of authors would lower this risk.

A barrier to accurate and widespread information comes down to the voluntary nature of sustainability reporting, which currently has little compliance with statutory regulation of reporting standards [8,27,32]. Hahn and Kühnen [8] reviewed 199 papers over a decade that focused on sustainability reporting, it was found that there has been a shift from solely focusing on social or environmental subjects to recently reporting on all three aspects of ESG. It was concluded that the lack of comparability and voluntary initiatives (such as the GRI) are insufficient in achieving accountability. It must, however, be noted that this study incorporated papers from 1999; whereby, a nonchalant approach in the adoption of reporting was common, but the progression in reporting has since surpassed historical efforts.

More recent studies have assessed the efforts by independent organisations to regulate the standards of such reporting to reduce the asymmetry of information for stakeholders [33]. In recent efforts, regulatory framework bodies have been formed including the Global Reporting Initiative (GRI), International Organisation for Standardisation (ISO) 26000, UN Global Compact and the UN Sustainability Development Goals, among others, in order to increase standardisation [6,9]. Szennay et al. [34] found the most widely used framework to be the GRI; where, of the 94% of G250 companies who report their sustainability performance, 74%

of that report in accordance with the GRI's and is considered the 'global standard' with the ratification of the 'triple-bottom line' (TBL) theory: social, economic, and environmental. This theory was highlighted in Brundtland's UN Report in connection to the definition of "sustainable development", which incorporates the management of a company's financial, societal, and environmental risks, obligations, and opportunities, to then be coined by John Elkington in 1994 who concluded it is a measure of profit, people, and planet of a corporation [35]. However, Shridhar and Jones [36] highlight three main criticisms of the TBL: (i) the economic element can be monetised whilst the other two factors are naturally occurring units (CO_2) or indicators (gender); (ii) the three dimensions are treated separately and may be indicative of a trade-off; and (iii) with the increase of governance, organisations may have the incentive to focus on compliance rather than authentic commitment to sustainable development. Reporting standards are thus complex to develop and maintain, it is criticised that the GRI allows firms to choose which environmental and social indicators to assess and, thus, does not reflect a holistic approach to sustainable development [37].

Incorporating the UN SDGs and their associated indicators into organisations reporting has been an important objective for the UN to ensure their widespread application; the SDG framework recognises that national governments cannot achieve this agenda alone, and so a strong emphasis is placed on collaboration between companies, governments, and international bodies [38]. Literature has covered the importance of the relationship between the willingness to address the SDGs in SRs and external institutional factors related the organisations country of origin, with Rosati and Faria [39] conducting research from n = 2413 SRs in 90 different countries on institutional factors such as politics, technology, and education. This novel study found organisations are more likely to report from countries with higher vulnerability to climate change, employment protection and higher CSR, among others; however, this study does not assess the actual organisation performance, nor internal factors such as size, resources, and economic performance. Understanding this relationship can aid decision-making by managers and investors who are responsible for country-specific strategies, investments and policies and are also significant to other stakeholders, such as the general public, scholars and organisations who are committed in achieving and supporting the SDGs [40].

To successfully contribute to the SDGs, studies have analysed how public information can be used to support policies to achieve the SDGs. Giupponi et al. [41] gathered free public information that pertains to SDG 6 (Clean Water and Sanitation) in Asian countries to understand how organisations and nations can manipulate data for their benefit. It was recognised that due to the inadequacy of free, available data it was not an accurate assessment and several gaps in the data transpired. This suggests that nations may lack the resources to suitably achieve SDG targets, in

addition, this study was focused on South-East Asia/Asia and accumulated countries at varying economic and political levels of development which may hinder cross-country comparison. This finding contrasts with Rosati and Faria, whereby a number of Asian countries, such as flood-prone Bangladesh, have a high vulnerability to the impacts of climate change, however it seems accessible data is limited in this region, perhaps due to a lack of reporting and governance [39].

A study by Koch and Krellenberg [42] evaluated Germany's response to SDG 11 (Sustainable Cities and Communities) through their adaptation of indicators and targets with industry partners and stakeholders to suit specific cities. It was found that Germany was able to track and monitor SDG 11 through unique acclimatisation, showing polarity in findings with Giupponi et al. [41]. Therefore, this does not provide suitable comparability. However, it was further found there was limited correlation between Germany's individual cities themselves. SDGs have been proven to lack universality, particularly SDG 11, with political and operational challenges, but also the identification and coordination of reporting across multiple scales of governments in the geographical north and south, suggesting a more unified method of reporting is required for comparison [43].

Olsen et al. studied Denmark's approach to SDG tracking through a government-endorsed body; Statistics Denmark (SD), who is the responsible authority for SDG reporting, working closely with stakeholders in businesses, public domains, and NGOs [44,45]. Olsen et al. [44] studied the work carried out by SD in 2021 showing that using existing statistical data extracted from different industries can provide SDG-relevant information. Denmark can utilise such data due to the broad range of accessible administrative registers and surveys, which allows SD to configure good judgement on SDG activities among Danish businesses without laborious primary data collection. However, as with all voluntary sustainable communication, companies are not legally obliged to report such information to the public authorities, which is the case in many other nations as seen above in Germany. Therefore, the sophisticated nature of Denmark's SDG-tracking is limited by regions, however, should be considered for adoption by other nations to gain an integral grasp of SDGs. When reporting in Public Sector Organisations (PSOs), Domingues et al. [32] found that reporting on sustainability, whilst still voluntary, was driven by internal motivations from employees. This study is particularly important due to the nature of PSO being so close to governments and therefore data exchange and unity is indispensable; however, Domingues et al. [32] received limited respondents in their method so more research into PSOs and SRs would bring further light on their relationship.

Sector-specific reporting has also received attention in academia to assess the prioritisation placed on sustainability matters. Mancini and Sala [9] studied mining industry literature, notorious for its environmentally-damaging practices and reputation. They found gaps in reporting areas

such as quantification of land use conflicts and land competition, particularly in Africa, whereas more developed nations demonstrated a positive impact on social aspects, such as income and employment. Industrial sectors are now involved in several initiatives in order to positively contribute to social needs and SDGs. For instance, the "Responsible Mining Index" aims to measure the ESG factors of the mining sector including efforts towards the SDGs, showing the deepening relationship between governing bodies collaborating to achieve the SDGs [46].

The banking sector has also been assessed by Avrampou et al. [10] across five European banks, limiting the global comparability, but nevertheless identifying that the banking sector had overall low SDG disclosures and fails to cover SDG reporting under GRI-based sustainability reporting. In this case, they relied on the information provided in selected banks SRs and followed a scoring system to quantify the level of disclosure, furthermore, the study took place in 2016, only one year after the release of the SDGs; therefore, continued sector analysis may improve their findings. Methods of 'scoring' SRs are adopted throughout academia and beyond, a notable study of SDGs in SRs comes from accounting firm 'PricewaterhouseCoopers' (PwC) who annually review >1000 global companies across 7 industries, providing an overview of the current activities surrounding SDG reporting [21]. Through content analysis, PwC draws insightful conclusions such as SDG prioritisation, KPIs and reporting quality, this method allows for quality, as well as quantity, to be assessed, However, studies of this kind are impressionable by interviewer bias and trustworthiness of qualitative data [47].

The retail sector is one of the top 10 most carbon-intensive trades, therefore, the Paris Agreement aspires to 'decarbonise' the sector [48]. Ferreira et al. [49] carried out a study on the top 27 highest revenue-earning retail companies, extracting data from their SRs in order to assess their policy, strategy, and energy-related building practices. Their study concluded that European retail companies have a focus on a 'top-down' approach, where prioritisation on decarbonisation originates from senior management and trickles down the hierarchy. Furthermore, key strategies are common among lower-level staff and departments including ambitious energy goals, monitoring progress and investment into greener logistics and buildings. It has been determined that the retail industry may be a leader in CSR reporting, which has facilitated the data in this study. However, it is noted that there are limitations in comparability within the sector and other industries [50]. Ferreira et al.'s [49] study also focuses on two specific years of reporting, just before and after the 2015 release of SDGs, consequently, an updated study may benefit the literature to understand if the retail sector has shifted its focus of SDG integration.

The adoption of the SDGs requires commitment from all levels; it has been recognised that sustainability reporting is increasing on a company level, with many large real estate firms releasing some element of

sustainability analysis in their publications; however, research in the real estate sector is limited [6,51–53]. Although reporting is growing, especially with the forthcoming pressure of 2030 targets, there is still a gap in this literature to contribute to the development of suitable reporting practices and identify strengths and weaknesses in reporting in the real estate sector. As highlighted, property contributes a significant amount to global greenhouse gas emissions, therefore, industry recognition is essential. Within the RICS 2018 SDG report [54], it is accentuated that a whole lifecycle approach is auspicious in advancing responsible business in land, construction and real estate use and investment, with this lifecycle being: Development, Use, Recovery. The RICS outlines the suggested key SDGs applicable for each stage, with a combination of 11/17 of the SDGs throughout the lifecycle, providing guidance of priority to companies [54].

An interpreted 2006 study focused on the UK construction industry to assess their efforts towards CSR, it was found that while they recognise the importance of CSR and its integration, there is little genuine efforts implementing key performance indicators (KPIs) and benchmarking, hindering their intentions of portraying authenticity to stakeholders [55]. However, as Lin et al. [56] state, research in the construction industry must be continually updated to focus on communication, coordination, and collaboration among the complex stakeholders within this sector. Therefore, a more up-to-date study finds that although CSR is widely viewed as a positive contributor to achieving sustainability, several enhancements are required to further interconnect CSR, SDGs, and the construction industry [57]. This study suggests changes to procurement practices can encourage social enterprise, legislation that addresses project delivery, implementation of all dimensions of CSR together in an integrated manner and increase CSR in SMEs to show benefits of CSR to business. Lützkendorf [58] discusses the requirement of sustainability assessments of buildings and incorporating carbon footprint benchmarks as a KPI. Sustainable urban environments fall under SDG 11 (Sustainable Cities and Communities) and are a focus of the public, with developers engaging with residents to participate in the sustainable development agenda, reiterating the need for integration between stakeholders to achieve the SDGs.

Moving away from the construction sector, Ionașcu et al. [6] investigated the European Real Estate sector, analysing SDG reporting as a new opportunity to reveal the implications of sustainable developments and strategies. As highlighted, transparency is a driver behind the use of SRs; the RICS advocates an integrated management of data and information relating to activities that can be achieved through corporate real estate sustainability management that accommodates the 'triple bottom line' aspects of real estate companies [15]. Ionașcu et al. [6] uncovers how these companies allocate their attention across all 17 goals, finding that European real estate firms have prioritised SDG 11—Sustainable cities and communities, SDG 13—Climate action and SDG 8—

Decent work and economic growth. Within their sample, seven firms have been chosen from Nordic countries and, similar to previous studies, data has been extracted from years close to the 2015 release, 2016–2018 in this case, therefore a slight time-lag may be present in the transition of firms integrating SDGs into their reports. Savills World Research [59] proclaimed that the UK, Germany, France and Italy have the largest European real estate markets in terms of value. However, the Ionașcu et al. [6] study only includes 3/16 companies from these nations, therefore a gap in the literature prevails for a specific divulgence into these regions.

Andelin et al. [60] found that the importance of communicating sustainability information via reporting is not yet recognised in Nordic real estate companies, albeit sustainability is deemed to add value. The emphasis that companies place on sustainability information also varies. For instance, Caijas et al. [61] found an increased level of information on climate change, energy, and environmental aspects, with a smaller coverage of human rights and social issues within real estate. Further studies reiterate an environmental focus as the most common type of information and suggest a lack of consistent approach to reporting on all aspects of ESG [60]. The Rashidfarokhi et al. [16] study focused on a sample of Finnish companies, collating 34 ARs for content analysis; they found social matters were the most reported theme, followed by environmental then economic, contrasting with the preceding studies. This result may be due to Finland's robust employment laws, and the fact that the study incorporated construction firms that have inherent physical risks and hazards and thus are extremely conscious of social needs such as health and safety.

Other studies suggest there are three motivations for issuing sustainability information: (1) improving stakeholder engagement and reputation; (2) avoiding financial and legal risks; and (3) addressing demand of policies, society of NGOs [62,63]. Rashidfarokhi et al. [16] findings fall under the second motivation due to enforcement of local Finish legislation or the EU Directive 2014/95/EU and partly due to stock exchange requirements, they confirm their sample has a lack of systematic approach to improving communications with stakeholders through higher quality reporting. As this study used sample reports prior to 2015, there is no mention of SDGs, therefore results may have differed if this study was repeated today. The results from Rashidfarokhi et al. [16] and Ionașcu et al. [6] acknowledge several Nordic firms within their samples, diverging from Andelin et al. [60] conclusions, proposing the idea that the 2015 SDGs publication has prompted greater sustainability reporting consideration in this region.

In summary, many industries are now making proactive attempts to report their sustainability activities; however, it is observed that some are more advanced in their quality and awareness than others. The concept of CSR reporting is becoming extensively accepted. Yet, due to the recent introduction of the SDGs, reporting now faces a new challenge with that

being to ensure all relevant goals are accurately incorporated into disclosures and there is a recognition of the impacts of green-washing. Our study, herein, aims to build upon the European studies of Rashidfarokhi et al. [16] and Ionașcu et al. [6] by applying the same approach to a UK context, recruiting content analysis to understand the prioritisation of UK real estate firms and incorporate which SDGs are reported [6,16]. By assessing common SDGs, their average quality score and statistical analysis based upon gathered data, our study adds value to this field through a different geographical setting and an updated sample set.

RESEARCH DESIGN AND METHODOLOGY

An interpretivism-based methodology was utilised to align with the study's aim and, as such, the main method of interrogation for this research was content analysis. This is a popular inductive approach when analysing ARs because it allows for large volumes of textual data and sources to be assessed, which can then be manipulated and used in corroborating evidence [47]. This has been confirmed by other researchers, finding this approach as a pertinent method to extract word frequency as a unit of analysis and reduce the subjectivity commonly associated with content analysis [64,65].

Sustainability reports have been assessed in recent literature using content analysis and this has resulted in substantial findings in this setting [6,16]. This study will be using publicly available information to draw quantifiable and qualitative sustainability findings from sample companies. Krippendorff [66] affirms that being able to make replicable and valid inferences from text is crucial. Real estate firms may differ between releasing ARs or standalone SRs; this study will select the most relevant means of communication, utilising the more specific SRs when appropriate, but also ARs to ensure a wide scope of the sample in a UK setting. This same approach was employed by Rashidfarokhi et al. [16] who incorporated communication mediums to reduce uncertainties in relying on only one reporting style and allows for a greater understanding of a company's sustainability practices [67]. Furthermore, given the purpose of this study is to assess the prioritisation of SDGs, only those reports referring specifically to "SDGs" or "UN Sustainability Development Goals" will be included.

To avoid inconsistencies in extracting documents, one central database was used to find relevant samples. The GRI Database was found to be a suitable index due to its wide scope of reports. Since being founded in 1997 the Global Reporting Initiative has aimed to create accountability mechanisms for companies to communicate their efforts towards ESG performance, with several sets of guidelines and standards that have been updated since its initial release (G1), and now classifies as the "GRI-Standards" [68]. Bellucci et al. [17] praises the unified standards of sustainability reporting within the GRI and allows a comparison of information and benchmarking between organisations. Pizzi et al. [69]

and Curtó–Pagès et al. [70] carried out research in Western economies to assess the correlation between GRI adoption and quality SDG reporting, both studies found a positive connection between using an international standard (GRI) and reporting on SDGs, therefore our study aims to use companies that have contributed to the GRI database with the anticipation of greater quality reporting.

In order to assess the efforts being made by UK real estate firms, several filters were applied to the search function including large companies in the UK real estate sector from 2016 onwards. The aim of this search was to extract a sample of companies that can then undergo content analysis. However, due to an unforeseen disclaimer (December 2020) on the database, which states: "Due to the ongoing review of this database and its related registration process, the information on this platform was last updated in December 2020 and is not going to be further populated" [68]. Therefore, the sample size and the ability to access most recent SRs was limited, due to this unanticipated circumstance, the researchers believed it is appropriate to still investigate the companies returned due to their contribution to the database in previous years but extract the most recent reports from their respective websites, with confidence that the content will still be in line with higher quality reporting standards. To appreciate the most recent efforts of UK real estate firms, reports would be classified for the years 2019 and 2020.

The sample reports have then been interrogated using content analysis and a coding system. This method has been utilised by several studies when assessing the quality of company correspondence [6,16,19–21,65]. The first step of content analysis is to read the documents several times to gain a higher knowledge and understanding of the content and data. Hsieh and Shannon [71] propose a conventional and coordinated approach in addition to a summative analysis; whereby, there is an identification and quantification of certain words or content in text to explore usage and frequency, this is classified as quantitative content analysis [72]. Here, a word map will be utilised to find the most popular words to understand if there is any key language when reporting on SDGs in this sector. Note, all conjunctive and syncategorematic words will be excluded as they hold no bearing. Recent studies have assessed the word frequency and linguistic analysis of several different industries, including agri-food, law and finance, incorporating the three aspects of CSR as a framework [63,73]. To uncover keywords related to the real estate sector, a word frequency on the RICS SDG report was conducted [54]. The four most frequent words for economic, social, and environmental were chosen and applied as a criterion to each individual report for a fair assessment through extracted from the governing body of all nine companies. The most common words included:

- Economic: Business, Development, Global, Investment
- Social: Communities, Human, Labour, Responsible
- Environmental: Environment, Land, Resource, Sustainable

Having assessed the generalities in the first stage, such as size, type and framework of each report, a coding system was applied using existing literature, notably extracted from PwC [20] and Ionașcu et al. [6] as these studies hold a similar objective albeit within a different setting; using categories and codes from relevant literature can increase reliability in recording and analysing data [74]. The coding system used was based on each of the 17 SDGs, and relevant words or phrases were extracted from the goals' respective targets, formulated to be relevant to the real estate field. NVivo (version 12) was used as the qualitative data processing software.

A code was established to relate to any relevant text or content for each specific SDG, which can then be organised and quantified. As previously found in literature, the real estate sector has historically placed more emphasis on communicating information about environmental factors and climate change, and recently, social aspects being more prevalent [60,61]. Therefore, it would be hypothesised that the SDGs to receive greater prioritising would be SDG 7—Affordable and Clean Energy, SDG 10—Reduced Inequalities, SDG 11—Sustainable Cities and Communities and SDG 8—Decent Work and Economic Growth, as these are the main areas of influence in the real estate sector. An example of the coding process is as follows: SDG 8—Decent work and Economic growth has several targets, however, with this study's focus, coding would be appropriate to targets achievable by this industry. Targets 8.1, 8.2, 8.4 and 8.10 relate to the economic impact on the community, therefore any text that refers to economic action by firms would be categorised under this code. Targets 8.3, 8.5, 8.6 and 8.8 focus on the creation of decent jobs, education, and safe working environments, therefore coding for this would be categorised under labour productivity and decent workspaces. All other goals were coded in a similar manner as per Table 1 below.

To ensure that the quality of reporting is assessed, and to reduce the subjectivity associated with content analysis, this study has utilised a well-regarded annual reporting structure by PwC on SDG reporting methods [20]. This report was conducted globally encompassing >7 industries, analysing ARs, SRs and company websites to understand how different sectors prioritise the goals. As PwC's study had a very large sample, it would be appropriate to adopt their reporting quality method due to rigidity. Following the coding exercise in respect of each goal, data was then appropriate for analysis to understand the true quality of reporting on SDGs. A scoring system from 1 to 5 is as follows:

1. Qualitative remark: declares importance without aspiration
2. Qualitative ambition: declares importance and aspiration for achieving
3. Quantitative KPI: quantifies key performance indicators for SDG
4. Quantitative KPI and target: identifies KIP and target for relevant SDG
5. Quantitative KPI, target and link to societal value: correlates KPI to SDGs with recognition of impact on the company.

Table 1. A description of each SDG extracted from the UN Framework and their associated coding descriptions for the purpose of the analysis.

SDGs	Description of Codes
1. No Poverty: end of poverty in all its forms	• Projects to support poor communities
2. Zero Hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	• Land use planning specific to needs of local communities
3. Good health and well-being: Ensure healthy lives and promote well-being for all at all ages	• Employee health and well-being initiatives
4. Quality Education: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	• Education programmes in the local community • Training programmes for future business needs
5. Gender Equality: Achieve gender equality and empower all women and girls	• Women in leadership positions • Equal pay for equal work
6. Clean water and sanitations: access to water and sanitation for all	• Local programmes to ensure sustainable water use
7. Affordable and clean energy: Ensure access to affordable, reliable, sustainable, and modern energy	• Sustainable energy usage within the business • Improving energy efficiency
8. Decent work and economic growth: Promote inclusive and sustainable economic growth, employment, and decent work for all	• Economic impact on local community • Labour productivity through efficient workspaces
9. Industry, innovation, and infrastructure: Build resilient infrastructure, promote sustainable industrialisation, and foster innovation	• Development of sustainable infrastructure • Green industrial technologies and processes
10. Reduce inequalities: reduce inequality within and among countries	• Equal opportunities for employees, including disabled and BAME
11. Sustainable cities and communities: make cities inclusive, safe, resilient, and sustainable	• Projects for inclusive and sustainable urbanisation • Ensuring access to inclusive and sustainable public green spaces and communities
12. Responsible consumption and production: Ensure sustainable consumption and production patterns	• Promoting sustainable practices throughout the life cycle of the building • Management of the efficient use of natural resources
13. Climate action: Take urgent action to combat climate change and impacts	• Measures to reduce greenhouse gas emissions
14. Life Below waters: conserve and sustainable use the oceans, seas, and marine resources	• Impact of activity on marine ecosystem
15. Life on land: sustainably manage forests, combat desertification, halt, and reverse land degradation halt biodiversity loss	• Measures to reduce degradation of natural habitats
16. Peace, justice, and strong institutions: promote just, peaceful, and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels	• Anti-corruption practices • Measures to promote responsible, inclusive, participatory, and representative decisions
17. Partnership for the goals: revitalise the global partnership for sustainable development	• The value of investments in partnerships made up of several stakeholders

RESULTS

Based upon the methodological design, the results are separated into distinct sections, namely: (i) Sample and reporting traits; (ii) Linguistic analysis; (iii) SDG prioritisation; and (iv) Quality of SDG disclosures.

Sample and Reporting Traits

From the methodology, the resulting search returned 39 reports from 17 real estate firms. Given the purpose of the study, only reports referring specifically to "SDGs" and/or "UN Sustainability Development Goals" were selected. This involved searching the 17 company websites to extract either ARs or SRs and conduct a 'word search' to ensure the terms were mentioned. As a result, a total of nine reports from nine companies were found. The sample is made up of the most recent available report from the company, for example, if a firm reported in 2019 but did not in 2020, the 2019 report would be included. Equally, if reporting occurred in both years, only the most recent report is included as the inclusion of both would add little value. Of this sample, three firms did not report in 2019, however, to ensure a widespread sample was obtained, their respective 2020 report was included. Note that public access to documents may hinder the inclusion of most recent communications but does not insinuate that they did not publish a report. Of the sample: five companies are Real Estate Investment Trusts (REITs), three are real estate owners and developers and one company is a real estate internet portal. Four companies are FTSE 100 constituents, one is classified among the FTSE 250, two are further listed on the London Stock Exchange, additionally, one firm was formally listed on the LSE but since has been acquired to form a PLC, and one is a private limited company. Based on the GRI database search filters, all companies are 'Large', which follows the EU definition of >250 employees and/or have a turnover of >EUR 50 million.

The reports from the nine companies vary in their presentation, from size, type, and structure. Almost half of the sample declare their sustainability agenda in an integrated report which encompasses the whole companies' activities in one document, often referred to as an AR. Of this 44%, all companies included sections on corporate governance which broke down the board of directors, audit reports and remunerations, furthermore, data is collated and presented within a financial statement, illustrating the company's financial activities and shareholder information. ARs tend to be protracted due to the vast amount of information and data, with the average document length of this sample being 179 pages. However, due to the nature of this research, areas that did not specifically relate to SDGs or general practice were excluded, this consists of the board of directors and financial statements, which are comparatively irrelevant to the practices and ambitions documented in the remainder of the report. Therefore, after this exclusion criteria, the average number of pages analysed was 61.5 (or 34%) per report, therefore

finding there is considerable information in an AR that often has minimal relevance to SDGs or sustainability.

The general structure of an annual report commences with a CEO and/or Chairman statement about the previous year. In 2020, this was primarily populated with Covid-19 activity and actions. The strategic section discusses notable conduct and developments of the company, alongside market analysis. This section discusses environmental and sustainability in the most detail therefore most of the coding took place here. KPIs prevail as companies aspire to quantify their activities. The next section is governance, whereby the board of directors are outlined often with personal profiles. Following this, the company will conduct an internal audit of their figures. Almost half of the ARs included a remuneration account, breaking down the salaries of directors and details of benefits.

The documents conclude with a financial statement section comprising income statements, balance sheets and cash flows, among others. This is intended to provide shareholders with financial KPIs. On the other hand, 56% of the sample was characterised as a standalone SR. These documents were generally shorter in length as financial statements and governance are not included. Of the five SRs, the average number of pages was 58, ranging from 17 to 141. Although briefer, due to the type of content and the premise of this study, 76% of the documents (41 pages) were analysed, two of which being 100%. Only sections such as methodology for data extraction and appendices were excluded under the same reasoning as before.

The remaining areas of the report then tend to be split into the three key areas of sustainability: Environmental, Social and Governance (ESG). Some reports clearly define each section, whilst others may conduct a more integrated approach—discussing key areas in their strategy. Each of these respective sections generally discuss the following: Environmental areas include net zero carbon initiatives and a roadmap to net zero. Social discussions materialise around equality, wellbeing and health and safety, communicating their attention to ongoing issues such as diversity. Finally, governance considers the corporate structure of the company, identifying areas of anti-corruption and the gender pay gap.

Linguistic Analysis

This stage includes a linguistic analysis of the reports to identify common language used in real estate reporting. The words being identified have been extracted from the RICS SDG report [54]. Each word has been summarised as ‘stemmed words’, whereby NVivo 12 will reduce inflected words to their stem, i.e., running a search term for “sustainable” would include the likes of “sustained”, “sustain”, “sustainability” etc. This type of analysis has been carried out in other sectors, however, to the researcher’s knowledge, has not been conducted in a European real estate setting. Figure 1 represents a word cloud of the key words and displays frequency related to their size [63,73].

Figure 1. Word Cloud extracted from the Linguistic Analysis identifying the most common criterion words used throughout the sustainability reports. Most frequented words include Developments, Business, Investments, Sustained and Responsible.

The average total occurrences of the above words is 713 per report, ranging from 99 to 1466, this was representative of the length of the report. The most used word from the criteria was 'Developments' with 1184 (22%) uses over the nine documents. As the sample comprises of construction and developers, it is reasonable to assume that firms will discuss their recent property developments, notably Berkeley Group and Canary Wharf Group; "developments" ranked in the top two for these companies. In contrast, the least common word was "labour" with only 17 occurrences (0.27%) across the sample, with two companies not citing this word at all (albeit the two shortest reports) and three companies only mentioning it once. "Labour" may have infrequent use because NVivo did not pick up on any stemmed words, reducing the likelihood of an occurrence, this limitation was also seen with "land", as these words cannot be plural and cohere in this context. "Investment" scored highly with 847 uses (13%) as companies demonstrate their commitment to improving the built environment, notable examples include investing into affordable housing in local communities, providing clean and renewable energy and colleagues to achieve their potential.

The most common words could then be generalised into the ESG themes of CSR. Economic appeared the most discussed, with 6/9 companies using general economic dialogue (Business, Development, Global, Investment). This ranged from 45% to 74% of the sample, suggesting that economic topics are a favourable agenda for real estate companies. It must be stated that this is purely a quantitative analysis and qualitative aspects of the words may be cloudy, for example, "investment" may be recorded under an economic theme, however the text may be discussing investment into renewable energy technologies which then arguably crosses over into environmental with context. 5/9 companies used language related to social aspects (Communities, Human, Labour, Responsible) the least, as low as 11% to 25%. This area seems to be reviewed less by real estate companies, perhaps as the current urgency in this industry is climate change and eco-friendly development. Interestingly, of those companies that reported standalone SRs, 3/5 used language relating to environmental whereas the

other two focused on economic wording, however this may be indicative of context inhibition within the software. This type of analysis provides a high-level assessment on language and themes communicated, but there are limitations on the categorisation of words due to insufficient context picked up by the programme, for this reason, a scoring system based upon the researcher's perspective is utilised later.

SDG Prioritisation

Each firm identified several key SDGs in which they identify to and are committed to achieving by 2030. This is intended to provide information to their stakeholders about the areas they deem most admissible. Some companies favoured three or four specific goals, whilst other companies ambitiously highlighted 12 of the goals. Figure 2 depicts this data with the analysis detailed.

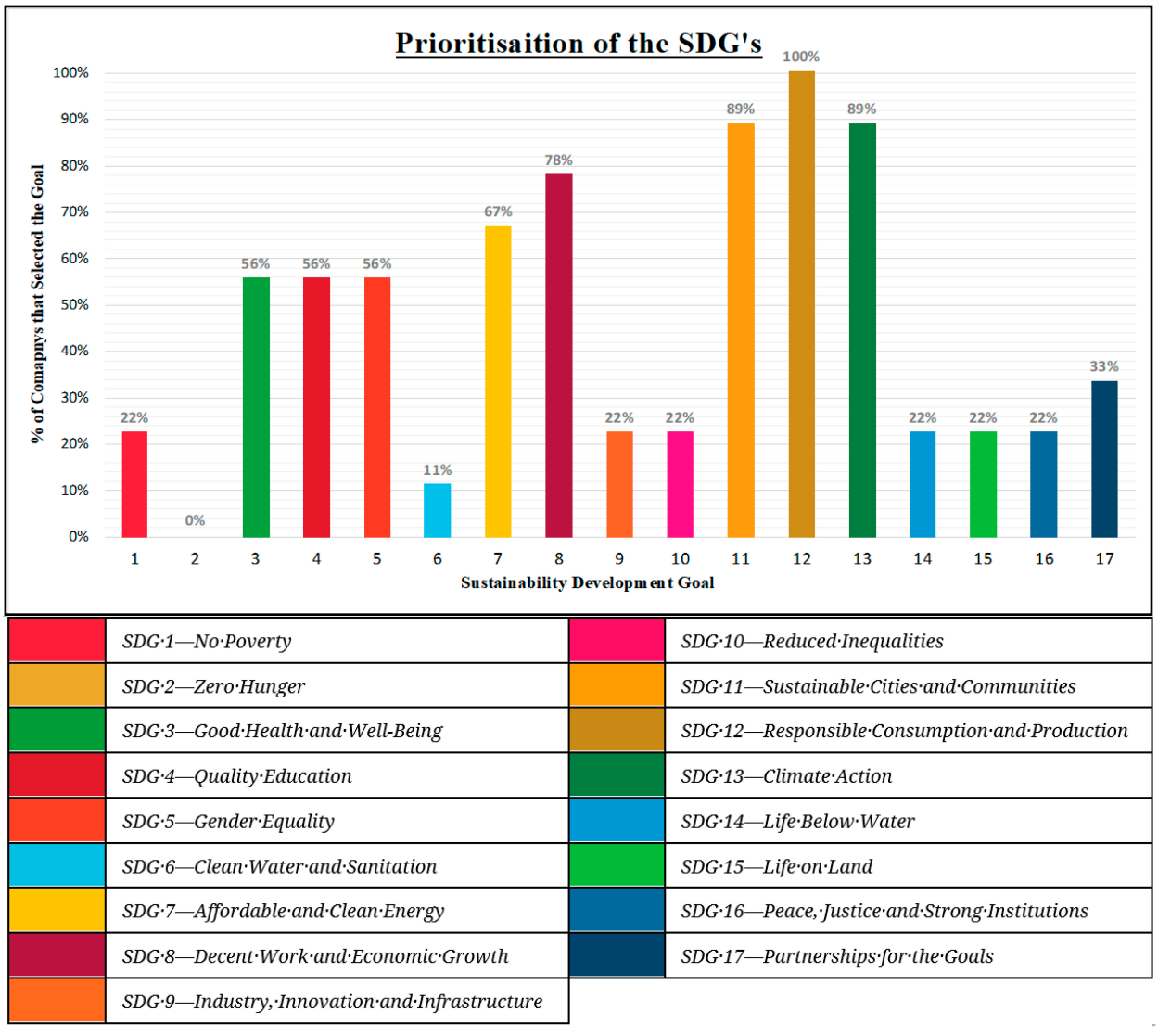

Figure 2. The prioritisation of the SDGs throughout the real estate firms (n = 9) demonstrating the weighted allocation of the SDGs. This suggests Real Estate firms generally give attention to 3 SDGs (SDG 11–13) more than the others.

The findings suggest there are three favourable SDGs within UK large real estate companies in which over 88% of companies associate with, namely, SDG 11—Sustainable Cities and Communities, SDG 12—Responsible Consumption and Production and SDG 13—Climate action. Throughout the analysis, these goals were most applicable and favoured for logical reasons; each incorporate a number of targets and indicators that are relevant to property.

SDG 11 consists of targets such as safe and affordable housing and transport, inclusive green and public spaces, adaptation of urban areas to be sustainable and resilient. Therefore, as real estate developers who are aiming to enhance urban areas, it is crucial for them to consider this in a sustainable manner. This goal was discussed in 8/9 firms; British Land did not choose SDG 11 or SDG 13, and have only highlighted three goals overall, suggesting the scope of their activities may be narrow to ensure success.

SDG 12 highlights the importance of sustainable production and consumption with an effective management of natural resources. A prominent theme in the reports was to reduce energy usage and waste through advanced systems that generate and conserve energy efficiently, meeting targets 12.4 and 12.5. It is unsurprising that 'Responsible Consumption and Production' is widely prioritised, and likely an assumed generality can be extrapolated from this sample due to the carbon-intensity of the built environment.

SDG 13—Climate Action is perceived as a somewhat vague title; however, this encompasses integrating climate change measures into everyday business, providing key information to stakeholders, and demonstrating sustainable commitment. This goal was a large priority for this sample, likely because the UK is a member nation of the Sustainability Goals, therefore on a business-level, firms are demonstrating their engagement.

A number of goals received little priority, notably SDG 2—Zero Hunger and SDG 6—Clean Water and Sanitation. As per the sample characteristics of a developed Western economy, there may be little relevance to prioritise these goals as the rates of starvation and accessible clean water are somewhat low. Although these goals were not prioritised explicitly on websites or in reports, several case studies throughout feature volunteering by firms at food banks or donate charitable funds to less developed nations. Other goals may similarly be deemed not directly appropriate to real estate and is reflected with the little prioritisation of SDG 1—No Poverty, SDG 14—Life Below Water, SDG 15—Life on Land and SDG 16—Peace, Justice and Strong Institutions.

SDG 9—Industry, Innovation and Infrastructure and SDG 10—Reduced Inequalities were observed as the most surprising result; a large element of this industry is its ability to construct buildings using infrastructure and technological innovation, therefore finding only 2/9 firms prioritising this was noteworthy. A reason for this may be that 55% of the sample disclose as a REIT, whose operations are focused on financing and business

activities and less so in the construction phase. SDG 10 is discussed at great length within reports, with attention brought to the fact the real estate industry is white male dominated, but commitment from firms is recognised to reduce the gender pay gap, increase the number of women in senior positions and improve diversity. SDG 10 may seem low on prioritisation due to conflicting goals, such as SDG 5—Gender Equality, suggesting firms may require clarity on coordinating activities and goals. In addition, SDG 10 retains targets such as improving regulation of global financial markets, enhanced representation for developing nations in global discussions and migration policies. Therefore, large real estate firms may question the relevance of some of these individual targets to their activities.

Quality of SDG Disclosures

This final section focuses on the quality of SDG disclosures and is intended to reduce the quantitative nature of the preceding analysis. The scoring system was extracted from PwC SDG Reporting Challenge [20]. Here, the researcher assessed the quality of each statement on a scale of 1–5; 1 being a generic statement about the SDG or related area and 5 directly linking its SDG KPIs to societal impact. A total of 730 statements or phrases relating to SDGs were extracted and coded from the text, this included short sentences, paragraphs, and numerical data. Table 2 surmises this analysis.

Table 2. Descriptive information from the quality analysis of the sustainability reports (n = 9), including the number of observations and mean score across the documents. This indicated the Mean Score to be 2.19 across the observations, with the Average Minimum being 1.13 and Average Maximum being 3.48.

SDGs	Observations	Mean Score	Standard Deviation	Min	Max
SDG 1	32	2.40	1.20	1.00	5.00
SDG 2	7	0.94	1.07	0.00	3.00
SDG 3	47	1.87	0.53	1.00	2.83
SDG 4	32	2.00	0.59	1.00	3.25
SDG 5	46	2.76	0.58	1.75	3.60
SDG 6	26	2.03	0.87	1.00	3.00
SDG 7	57	3.03	0.63	2.00	4.16
SDG 8	35	2.29	0.83	1.30	3.88
SDG 9	40	2.08	0.72	1.00	3.00
SDG 10	56	2.56	0.51	2.00	3.50
SDG 11	67	2.29	0.64	1.50	3.10
SDG 12	70	2.67	0.60	1.75	3.50
SDG 13	96	2.99	0.41	2.42	3.57
SDG 14	10	1.07	1.21	0.00	3.00
SDG 15	33	2.29	1.37	0.00	4.00
SDG 16	28	1.89	1.04	0.00	3.33
SDG 17	48	2.04	0.66	1.50	3.50
Average	42.94	2.19	0.79	1.13	3.48

As displayed, there is a general positive correlation between the number of observations of SDGs and prioritisation. SDG 2, 6, 14 and 16 recorded observations significantly lower than the average (42.94); this correlation is also apparent throughout highly prioritised goals: SDG 11, 12, 13. It is noted that although SDG 12 was prioritised by every company, SDG 13 received the greatest number of observations (96), perhaps due to the nature of the reports with an objective to communicate their climate change activities. In addition, SDG 8—Decent Work and Economic Growth was noted by 78% of the sample, however its observations (35) were far fewer than other, less prioritised goals, such as SDG 10 (56) but only a priority for two firms. Perhaps indicating that real estate firms communicate their activities to a greater capacity for some goals compared to others, and the targets related to each goal may influence their ability to accurately convey.

The scoring process allows for quality to be extracted from the text based upon the aforementioned method. The average score throughout the study was 2.19 (out of 5), highlighting that the sample companies generally discuss SDGs at a qualitative level with ambition or aspiration. This suggests that SDG reporting is still in its infancy in real estate, with firms disseminating little quantitative action and KPIs of their activities. The standard deviation (0.79) implies a degree of variance in quality, however due to the low average score, these deviations may only just bring quality into the next band. SDG 13 yielded 96 observations and scored 2.99 on average, suggesting Climate Action is discussed with greater quantification and KPIs. Furthermore, SDG 13 received the lowest standard deviation of 0.41 and a minimum score of 2.00, therefore the quality of reporting on this goal was high throughout and a minimum of qualitative ambition was made in each statement.

The majority of observations do so in a descriptive, qualitative manor employing common phrases such as “Net Zero Carbon by 2050” or “Reduce the impact of climate change within our portfolio by 2030”, which classifies as 2 due to the anecdotic nature but little application of KPIs to appraise this. 24.8% of statements on SDGs were backed up with quantitative KPIs that administered more depth to their ambition, examples include the breakdown of waste disposal or energy performance; this provides an insight into the company’s current data and can be used as a benchmark for future progress.

Only 2% of statements obtained an average score of >4, indicating the UK Real Estate sector has not extensively adopted the use of quantitative KPIs to set targets and link this to societal impact. A plausible reason may be that the sample ranges from 2019 and 2020, only a few years since the release of the SDGs in 2015, therefore their strategic ambitions may not have filtered through to quantitative targets in reporting. Furthermore, due to the characteristics of different sections, statement scoring may vary. Nonetheless, real estate firms should be providing high quality insights into their activities to ensure the importance of their projects is

communicated transparently. As stated, a score of 5 shows that a company is linking its SDG KPIs to societal impact, therefore doing so demonstrates the extent of the impact SDGs can have to society and must be recognised. Despite UK real estate companies claiming to prioritise SDGs and their importance, few seem to be holding accountability for their real-world impacts and instead merely discussing and aspiring to be better, without concrete measures in place.

In summary, these findings shed light on the efforts made by the real estate sector when communicating about the SDGs. Firstly, an overview of the methods of disclosures was made, highlighting the different characteristics of a report. The second finding refers communication and linguistics used, allowing an interpretation of text, investigating if unnecessary jargon is commonly used, and how different categories of firms (i.e., REITs, Developers, etc.) use language. Finally, findings of the SDGs drawn from these reports highlight the prioritisation of goals in this industry, discovering precedence of SDGs 11–13, with some goals receiving very minimal consideration in terms of rank. Furthermore, quality somewhat correlates to their prioritisation, with higher scores implying greater focus made by the firms, although some outliers prevail. It is generally found that real estate firms strongly associate with goals that are in their realm of control and dismiss those that are unrelated to the industry. This is coherent with the fact that their general practice would only be applicable to such associated goals (e.g., SDG 11).

DISCUSSION

The structure of reports, although each unique, generally followed the same outline, whereby they would begin with an outline from a senior partner or CEO, followed by key activity and business performance, and concluding with targets or financial statements. This generic structure echo's Rashidfarokhi et al. [16] who assessed ARs and described the three focal points to be: 'communication with investors and stakeholders, monitoring aspects of social and environmental impacts, and internal business aspects'. These findings suggest a universal structure among large real estate firms but may not be applicable to other industries which may convey differently.

It was found that the majority of the sample (56%) communicated their activities in the form of a standalone SR, contrasting with previous studies whose sample was primarily (64% and 59%) compiled of ARs [6,60]. This may suggest that the voluntary nature of sustainability reporting in Europe and the associated criticism, such as inconsistent quality and disingenuity are becoming less of a concern in recent years [51]. However, a sole regulatory body for framework is still questionable in this field, with the vast choice of governance throughout Europe who all hold slightly different nuances, providing incoherence.

Of this sample, many referenced the reporting standards that they followed, notably all but one of the SRs highlighted their framework

standards, whereas none of the ARs did. This shows disparity with Szennay et al.'s [34] study on the G250 companies, whereby 74% of their sample reported in accordance with the GRI's. It must be noted the GRI Database of this study disclosed that it would not be further populating as of 2020 due to an ongoing review of the registration process, however this should not influence the number of firms that follow this framework. It seems that ARs are less inclined to follow the GRI standards compared to SRs, this finding is replicated in Ionașcu et al. [6] study whereby 56% of reports were prepared under the GRI Standards and 59% participate in the GRESB survey. However, this study groups standalone SRs and ARs under the same term of "SRs", therefore the difference between the two is not entirely clear. Finding a discrepancy with Rashidfarokhi et al. [16] who found that 87.5% of their sample followed international reporting guidelines in their SRs, with the majority complying with the GRI Index.

PwC conducts a widespread assessment of SDGs in reporting since 2017 [19]; in 2018 they found that 73% of their sample followed the GRI framework, however, eight other frameworks were referenced, reiterating the overcrowded nature of this issue. Furthermore, this study incorporated six industries, so standardisation may be more recognised in other sectors or nations. PwC [20] highlights that the GRI, ISO and UNGC offer different approaches to disclosing sustainability activity however none of which are specific or detailed in the context of reporting on SDGs, creating a problem in monitoring progress. This analysis is reflected in this study, whereby differing frameworks were employed in SRs and none within the ARs. As the evidence suggests from the comparability of these studies, there is little uniformity in standardisation, with findings showing that ARs generally conform to international reporting standards less so than SRs. Of these papers highlighted, a greater majority of the SRs follow GRI or alike specifications, indicating that companies intend to communicate sustainability-related issues with more reliability and assurance by following these standards.

All companies within the sample made a clear statement of prioritisation of the 17 goals, ranging from committing to three goals to a maximum of 12. The average number of prioritised goals was nine (53% of total), which seems to be a large proportion in which one company can commit to, however PwC found the same result, with 737 companies choosing nine goals on average. It begs the question as to how these companies are planning to achieve them in line with their business objectives [21]. Rather than the statement of prioritisation, companies should address the specific indicators and objectives related to each goal; 169 targets across all 17 goals. It would be near impossible for a company to achieve all targets exclusively related to one goal however selected relevant targets may be more beneficial.

The most widely prioritised goal of this study was SDG 12—Responsible Consumption and Production, which has 11 targets. Companies that claim to practise this goal should focus on tangible objectives that can be

achieved, such as target 12.4—the management of chemicals and all waste throughout their life cycle, or 12.5—reduce waste generation through prevention, reduction, recycling, and reuse, as an example within real estate. An excellent demonstration of this is from Derwent London who listed their prioritised goal and then the applicable targets and indicators; for target 12.5 it is discussed they have "established a portfolio wide minimum recycling target of 75% and a zero waste to landfill policy" [75]. This finding correlates to Ionașcu et al. [6] who found that 88% of their 25 SRs who prioritised SDG 12 refer to sustainable management and efficient use of natural resources. It is instrumental for those companies who prioritise SDGs to actively engage their respective targets within their business strategy where appropriate. Some goals include targets that are government specific and large businesses would be unable to achieve this on a wide scale, therefore, on a business-scale, narrowing in on specific targets that CEOs and managers can understand allows for concrete plans to be implemented to drive change.

A number of areas have referred to the RICS SDG report, whereby they highlight key SDGs in each stage of the real estate life cycle [54]. Within this lifecycle, SDG 12 and 16 were the most frequent, with SDG 8, 11, and 13 being the next most occurring. The findings largely correlate with SDG 11–13 being notably mentioned and SDG 8 also being a key goal. However, SDG 16—Peace, Justice and Strong Institutions was considerably incorporated in the RICS phases of real estate; however, this was only a priority for 22% of companies. Overall, the alignment of goals is clear among real estate companies, and it has been shown the RICS holds similar goals in the same stance.

The idea of green-washing is a concern within CSR reporting, therefore companies may look towards accreditation to conform on the idea of "credence information" [25,27]. The nature of an external audit, such as independence and expertise of large accounting firms, may indicate to stakeholders that the information provided is legitimate and the company has a strong commitment to sustainable development [76]. Within this study, it was found that 89% of companies had a formal audit conducted by an external party. Among the annual reporting companies, all of which employed an external audit of datasets and were explicitly highlighted throughout, compared to SRs whereby external accreditation came in the form of 'assurance reports' which vary from a singular page of confirmation to a sentence highlighting third party assurance. Of those that undertook independent assurance, 62.5% looked to the "Big Four" accountants, predominantly the ARs. Jones et al. [52] found that limited external assurance reduces the reliability and credibility of European property companies and predicted that stakeholder pressure surrounding legitimacy and accuracy may force property companies to engage with comprehensive external auditing and assurance as integral elements in the reporting process, to which these results align.

Companies may include unnecessary jargon to increase asymmetric

information between the reader and the content itself. A common theme when reporting on SDGs is the use of the colourful graphics used by the UN to market the goals. Within the reports, in almost all cases, there was the utilisation of these visually attractive logos throughout, from just identification to a more illustrated version with large, colourful pages and infographics to communicate the goals. The use of the graphics has been loosely discussed in literature and the industry very recently, with the term “rainbow-washing” being coined. Similar to green-washing, it is the process of only addressing the SDGs for the reputational benefits of the company to be associated with the UN’s framework [77]. This concept makes it increasingly hard for stakeholders to view an honest and well-rounded opinion of the companies’ sustainable activities and -washing suffix is often a tactic utilised by corporate PR to galvanise their reputation.

The difficulty with green- and rainbow-washing is that it is hard to prove, and further studies are required to administer an in-depth analysis into company activities, however this report utilised a scoring system to mitigate this issue. The average score of the 17 SDGs was 2.19, whereby companies are mainly delivering information about SDGs in a qualitative setting. In relatable studies such as Ionașcu et al. [6] the average score was 2.99 whereby communication by firms correlated the goals to KPI and quantifiable targets, however this study was completed over three years of reporting, therefore as firms better understand the methods of reporting on SDGs year-on-year, quality may increase.

In 2017 and 2018, PwC carried out a similar assessment of quality to which they found an average score of 2.29 and 2.71, respectively [19,20]. In 2018, 16% of companies reported KPIs and targets, with 41% exclusively reporting qualitative ambition and 8% making a statement. In 2019, a similar result was found whereby 8% of companies (157 within sample) used quantifiable targets with SDGs, whereas only 39% addressed qualitative ambition and 32% merely just mentioned the SDGs. A notable finding here is the leap from 8% merely making a statement of the goals in 2018 to 32% in 2019, generating the question that companies may be beginning to ‘green- and rainbow-wash’ their way to association of the goals by effortlessly discussing the SDGs without making genuine connection to the cause. These findings, particularly PwC [21], align with the results of this analysis—26% of firms simply mention the goals and 40% qualitatively set ambitions for the goals, with only 2% communicating quantifiable KPIs with targets. It is noted though, this study used reports that wilfully discussed the SDGs within their report, therefore it would be expected a greater percentage to be at a higher quality, whereas PwC found that 72% of their sample mentioned the SDGs in their reporting.

The discussion surrounding the prioritisation of the goals and the quality predicament of rainbow-washing are interlinked. Companies that provide high quality reporting on their specified goals in turn provide the business with greater opportunities; it attracts investors who are looking to allocate capital into sustainable business. The Stewart Investors found

that pensions and sovereign wealth funds are road mapping their investments to cater for the goals, therefore the world of finance, which is very informed on ESG investment, present an opportunity for public firms (88% of this sample) to be a market leader in sustainability focused investments, particularly within real estate [78]. Therefore, if real estate companies focus on business strategy that is guided by their prioritised SDGs and communicate this effectively to stakeholders, this in turn may positively impact financial results and be of interest to the senior board.

A key method of making this connection between business strategy and commitment to the goals is through KPIs. Laurent et al. [79] discovered that within a product development and manufacturing setting, KPIs for SDGs are essential to monitor and communicate progress with a system that is recognised by all stakeholders as a metric. In Germany however, it was analysed that there is poor comparison of indicators, both nationally and internationally, and that adjustments of SDG targets need to be made in accordance with country-specific challenges [42]. The theory of KPIs is a suitable method of communicating performance, however this may not be plausible for every goal in every country or company, hindering comparability and progression audits of the goals. However, in terms of reporting quality, PwC [20] argue that targets and KPIs create huge value and allows companies to demonstrate their actions, as comparability is based upon year–on–year reporting, providing excellent insight for key stakeholders.

KPIs provide industry wide comparability in some instances, such as SDG 5—Gender Equality, whereby companies can report on the number of women in senior positions, which is easily assessed between companies and industries, annually. In this study, SDG 5 scored above the average at 2.76, with more companies stating quantifiable targets due to greater concern for employee well–being, ensuring equal opportunities and eliminating gender inequality. This is reinforced by Ionașcu et al. [6] where SDG 5 scored 3.59 and PwC scored 2.44 under similar cadence [20]. Alternatively, goals such as SDG 13 could be argued that it incorporates several elements including resource use, renewable energy use and carbon emissions and therefore may be harder to monitor and quantify as a key indicator, although Lützkendorf argues that as reporting progresses, carbon footprint and its associated metrics will evolve as a key indicator over time [58]. This has been seen in studies including this one, as SDG 11–13 (which could be addressed as the most important goals for environmental or carbon related targets) scored highly, suggesting a strong reporting presence of these activities [6,16]. In comparison to six other industries, SDG 13 scored the highest (3.10), whereas SDG 11 and 12 performed comparatively worse (1.30 and 1.40, respectively), indicating that perhaps industries with a lower degree of affiliation to carbon intensive practices have less of a concern to report on these goals to a high standard [21].

Overall, the exploration of sustainability reporting among UK Real

Estate companies provides an insight into the prioritisation of the SDGs and how KPIs can be utilised to communicate effectively to stakeholders. The sample firms provide an in-depth analysis of their operations; however, some goals are not reported on to a high quality for several reasons. To reduce the issue of green-washing, or the more forthcoming, rainbow-washing, action is required to improve quality and demonstrate real action to the commitment of the sustainability development goals.

CONCLUSIONS AND RECOMMENDATIONS

Society is beginning to explore the importance of the SDGs and how they must be utilised by companies and governments in a collaborative manner to achieve all 17 SDGs by 2030. As this becomes increasingly recognised, companies are communicating their prioritisation of each of the goals, with varying degrees of ambition and preference. This study assessed which goals the UK real estate sector prioritises. The results exhibit that SDGs 11–13 were the key goals for almost all companies, suggesting that the sector is primarily focused on climate action alongside producing sustainable cities in a responsible manner. Alternatively, the companies have less focus on goals concerning poverty, innovation, ecosystems, and biodiversity—that are not directly applicable to the real estate sector. This is supported by the RICS property lifecycle goals, which allocates goals throughout each phase of real estate and, therefore, provides confidence in the study findings as to how the UK real estate sector allocates their resources in order to achieve specific and relevant goals [54].

Another main finding is centred around the quality of reporting, which aims to provide an insight into the content itself and address the idea of green-washing. Of all statements across the sample, the average score was 2.19, implying that UK's large real estate companies tend to make statements and ambitions at a qualitative level. This score varied between each goal respectively for reasons such as relevance of the goals to this sector. SDGs 11–13 scored above average, with SDG 13 achieving one of the highest values (2.99) and implying that there is more quantification and targets being set in the context of climate action. It must be noted that a high scoring statement was a rarity in this study, with only 2% scoring 4 or 5; whereas, standalone remarks about the SDGs and qualitative ambition (1 and 2) made up a large proportion of observations (26.1% and 40.5%, respectively), signifying that the UK real estate sector needs to progress their reporting quality to encompass KPIs and quantifiable targets to their stakeholders.

The 17 SDGs and their associated targets have been outlined by the UN as essential steps to develop a sustainable society by 2030. The implications of this study can be applied to the wider audience as the recognition of the goals becomes more widespread over time. Stakeholders are becoming aware of the importance of sustainability in every industry; therefore, this induces competition as companies seek to become market leaders driven by

sustainability. Through high quality reporting and transparency in their actions, this can reduce the disconnect between stakeholders and companies and exploit the link between improved engagement and reputational capital [80]. In addition, higher quality reporting reduces the stigma associated with green-washing, as highlighted by Comyns et al. [27]; whereby, search and experience information can be bettered through quality reporting and, thus, reducing the intrusion of asymmetric information. Furthermore, this study implies the use of external assurance can improve quality; comparing Andelin et al. [81] and Andelin et al. [60], where it was found that the real estate sector was lagging behind other industries, to this study where 8/9 of the companies conducted an external audit. Implying the real estate sector is striving to improve quality and the credence information that comes with assertion.

On a sector-specific level, this study shows how UK-based large real estate companies are structuring their activities; many companies and sectors in recent years have been scrutinised over the case of green-washing, therefore providing an analysis of their ESG communications can provide clarity. By comparing reports within the real estate sector and taking a holistic view allows for improvements to be identified within reporting on SDGs. For instance, within this sample very few companies discussed specific SDG targets that are easier to monitor, review and in turn, a better tool for the UN to understand progress. Therefore, by employing goal–specific targets it would allow for a greater overview of sector performance on the goals year-on-year.

The following recommendations can be drawn from this research.

1. Governments and partners of the UN SDGs must provide support for companies looking to associate with the goals. This entails the allocation of relevant and achievable targets amongst different sectors to reinforce the likelihood of accomplishment. This may necessitate testing and validation of standardised frameworks.
2. Quality of reporting must be at the forefront of stakeholder communications. A greater level of detail and clarity can reduce asymmetric information and the associated benefits, notably reducing green–washing. This does come with the conflicting challenge of jargon versus quality, but a challenge that must be overcome.
3. Industries must align their prioritisation of goals. The real estate sector generally had common centralised goals throughout, therefore if focus can be narrowed to specific goals and their respective targets, that are indispensable and pertinent to each sector, with governments supporting the remainder, greater influence can be made.

Advancing investigations within this field of study, the following recommendations for future research are proposed.

1. Future academic research should be focused on studies encompassing international and sector-specific differences on the topic in hand for a comparative analysis on global SDG reporting quality.

2. Further research is also required in the field of SDGs and sustainability reporting in general due the infancy of the SDGs and the dilemma of green-washing. As society becomes more aware of the risks imposed by climate change and other environmental issues, transparent and high-quality information is needed for a harmonious and synergistic perspective.

DATA AVAILABILITY

The dataset of the study is available from the authors upon reasonable request.

AUTHOR CONTRIBUTIONS

HS: conceptualisation, investigation, formal analysis, writing—original draft. CAB: conceptualisation, supervision, writing—review and editing. Both authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

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How to cite this article:
Squier H, Booth C. Insights from the Analysis of Sustainability Reporting Across UK Real Estate Companies. J Sustain Res. 2023;5(2):e230005. https://doi.org/10.20900/jsr20230005