Management by keywords: a corpus-based investigation into the discourse of six capitals in best practice integrated reporting

Article

Published Version

Open Access

It is advisable to refer to the publisher's version if you intend to cite from the work. See Guidance on citing.

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

Management by keywords

A corpus-based investigation into the discourse
of six capitals in best practice integrated reporting

Sylvia Jaworska, Renata Stenka, and Emre Parlakkaya
University of Reading

We examine a corpus of integrated reports endorsed as best practice to explore how the concept of 'capital' and its novel extension into six types of capitals — including 'human', 'social and relationship', and 'natural' — are discursively constructed and legitimised in the corporate field. Our findings show that the new capitals are mentioned frequently, but in a bullet point-like way without elaboration on their significance — a response strategy that we call 'management by keywords'. Our analysis suggests that the collective business mindset remains centred on financial value creation, with the new capitals acting as servants to financial objectives. This questions the transformative power of the six capitals, hailed as a business innovation, to move corporate practices towards more social and environmental sustainability via enhanced corporate accountability. At the conceptual and methodological level, the study showcases the potential of corpus linguistics for fostering interdisciplinary research involving linguists and scholars in business and accounting.

Keywords: six capitals, integrated reporting, sustainability, keywords, collocations

1. Introduction

This study examines discourses surrounding the concept of 'capital', which lies at the core of business thinking and activities. Traditionally, capital has been viewed primarily in financial terms (Cannan, 1921; Hodgson, 2014). However, with the emergence of Corporate Social Responsibility (CSR) initiatives such as integrated reporting, the definition has broadened to include both financial and non-financial aspects of value, encompassing six dimensions: 'financial', 'manu-factured', 'intellectual', 'human', 'social and relationship', and 'natural capital'. In

the corporate world, this extension — referred to as the 'six capitals' — has been hailed, at least at its origin (O'Dwyer et al., 2024), as an innovation that formally embraces multi-capital accountability (Adams, 2015; de Villiers et al., 2014; McNally & Maroun, 2018). The recognition that the success of corporations is inextricably linked to the societal infrastructure in which they operate and the natural resources they use has given rise to what scholars refer to as the era of stakeholder capitalism (Freeman et al., 2007). Consequently, companies face growing public pressure to acknowledge their responsibility to a wider range of stakeholders, including society at large. They are now expected to be accountable for the impact of their activities on both society and the environment (Chelli & Gendron, 2013).

The fundamental concept of corporate social responsibility (CSR) rests on the notion of an implicit social contract between businesses and society. It holds corporations accountable not only to their financial stakeholders, i.e. providers of financial capital, but also to all those who contribute to or are directly or indirectly affected by corporate activities (Freeman et al., 2007). Companies must not only seek financial success but strive to obtain and retain a 'social license to operate' by gaining public acceptance and consent for their actions (Buhr & Reiter, 2006). The inclusion of human, social and relationship, and natural capital in the notion of capital is a direct response to this requirement. It signals quite a change from the famous — perhaps infamous — business mantra that "the social responsibility of business is to increase its profits and nothing else" (Friedman, 1970). In principle, this extension could mean a fundamental shift in the collective business mentality, extending the conceptualisation of capital to encompass dimensions that were previously disregarded for standing in conflict with corporate (financial only) priorities (Brown & Tregidga, 2017; Reinecke & Ansari, 2016). However, whether this extension genuinely signifies a sincere commitment to addressing public concerns regarding the environment or is a mere rhetorical gesture remains an unanswered question.

Against this background, the current study endeavours to ascertain the extent to which the old (financial) and new capitals are considered. Specifically, it investigates how these capitals are discursively constructed, articulated, and legitimised in integrated reports produced by businesses from a variety of sectors and industries. It explores a large corpus of 105 reports publicly recognised by the Inter-

national Integrated Reporting Council (IIRC)[1] as examples of best practice for preparing integrated reports. Examining corporate documents considered exemplary is important for at least two reasons. First, these reports are artefacts (D'Adderio, 2008) of an institutional corporate genre that have been collectively produced and officially endorsed by the business world. As such, they do not represent the idiosyncratic voices of one or two companies; they are written in compliance with explicit and implicit conventions of talking and writing approved by and implemented in the corporate community at large (Breeze, 2012; Stenka & Jaworska, 2019; Stenka, 2022). Scrutinising this institutional and publicly available discourse about enhanced i.e. multi-capital (cf. O'Dwyer et al., 2024) accountability allows us to tap into the widely accepted and shared ways of thinking in the corporate field, offering insights into practices that corporations perform – or at least want to be seen as performing – to maintain a social licence to operate. Second, owing to their best practice status, these reports are likely to become a global reference or trendsetter (Robson & Ezzamel, 2023) for how to report on the six capitals in response to the growing societal expectations.

We explore the corpus and the constructions of six capitals therein using analytical tools from corpus linguistics, specifically: frequencies, collocations, and concordance lines. These tools allow us to systematically uncover frequently repeated discourse patterns and associations in large text corpora (Baker, 2006). We argue that by studying repeated discursive associations around the notion of six capitals in corporate reports endorsed as best practice, we can reveal shared thinking about the environment and society in business sectors that points to collective business mentality regarding sustainability and accountability (Douglas, 1986). In doing so, this study addresses a significant question about how corporations think about and commit themselves to mitigating the wider societal and environmental impacts of their activities through novel CSR constructs such as the six capitals. This is a crucial question because the success of any organisational and social change is based on and conditioned by changes in the collective

---

1. The IIRC was set up in 2010 as an international organisation (comprising regulators, investors, companies, standard setters, the accounting profession, and NGOs) to assist businesses with preparation of integrated reports. The IIRC published official framework and guidance that businesses were to follow while preparing their integrated reports. In June 2021, the IIRC and the Sustainability Accounting Standards Board (SASB) merged into the Value Reporting Foundation (VRF), establishing a global regulatory body dealing with sustainability issues. In November 2021, the International Sustainability Standards Board (ISSB) was established, consolidating the VRF and Climate Disclosure Standards Board (CDSB). The ISSB falls under the umbrella of the IFRS Foundation, which is the governing body of the International Accounting Standards Board (IASB) that has been issuing financial reporting standards. Currently, the ISSB and IASB are responsible for the integrated reporting guidance and framework.

(here, corporate) mindset. If companies' collective and public demonstrations of their attitudes toward society and the environment – as reflected and enacted in the corporate institutional discourse – have shifted to encompass issues around broader accountability and thus take sustainability more seriously, then changes in corporate actions towards the two goals are more likely to occur. In using corpus tools and methods, our we also respond to calls in accounting literature for more linguistically informed approaches to the study of business discourse (Beattie, 2014; Stenka & Jaworska, 2019; see also, Pollach, 2012). We showcase how a corpus-based approach can be effectively used to study collective understanding of socially important issues in corporate discourse and the potential it has for fostering interdisciplinary research.

2.   Integrated reporting and the notion of six capitals: A brief overview

Business performance has traditionally been measured and reported primarily in financial terms. As the wider societal and environmental impacts of corporate activities become increasingly evident, "the need for broadening out and opening up accounting and accountability" (Brown & Dillard, 2014: 1120) has emerged, making companies responsible for more than just financial aspects of their business activities. Reporting solely on the financial dimension of capital is now considered inadequate for evaluating corporate performance, raising questions about companies' social licence to operate (Malsch, 2013; Power, 2021; Tregidga et al., 2014).

These developments have resulted in various CSR reporting initiatives, each designed to provide information about financial and non-financial (that is, social and environmental) dimensions of corporate performance. One influential CSR initiative of this kind was the introduction of integrated reporting (IR), launched in 2013 (Higgins et al., 2014; van Bommel et al., 2023). This initiative sought to integrate social and environmental considerations by requiring reports on six capitals, including human, social and relationship, and natural capital (IIRC, 2013). In this way, the intended audience of integrated reporting extends beyond providers of financial capital (although they still remain the primary recipients of the information) to encompass other stakes and stakeholder groups including employees, unions, regulators, and the public at large (Adams, 2015; Gibassier et al., 2018; van Bommel et al., 2023).

By disclosing information on social and environmental dimensions to a wide range of stakeholders, integrated reports aim to align corporate practices with public expectations. They serve as an important corporate mechanism in positioning companies as legitimate actors, ensuring those companies can maintain

their social licence to operate (Tregidga et al., 2014; de Villiers & Dimes, 2023). Integrated reports play a significant role in controlling a company's positive image, proactively demonstrating (at least discursively) corporate commitment to responsible or sustainable business practices (Cho et al., 2010). Projecting a sustainable image helps, in turn, with the cost and availability of finance, given the increased importance of green or responsible investments across the capital markets. The persuasive and promotional character of integrated reports is apparent, but the texts also provide the wider public with insights into the inner workings of corporations, offering discursive material that is open to scrutiny by diverse stakeholder groups who can potentially challenge corporate practices. Ignoring this discourse, especially that which is hailed as best practice, would absolve corporations from having to move towards greater accountability and social and environmental sustainability.

In IR, capital is generally defined as "stocks of value that are increased, decreased or transformed through the activities and outputs of the organization" (IIRC, 2013:11). It is also described in terms of business relationships and resources. The concept of six capitals, introduced by IR to promote enhanced multi-capital accountability in corporate practices, encompasses two groups of resources and/or relationships. The first group includes two capitals traditionally considered key business capitals: financial and manufactured capital. The second group consists of new capitals related to non-financial dimensions, sometimes referred to as 'living captials.' These include intellectual (partly recognised in financial reports as intangible assets), human, social and relationship, and natural capital (see Table 1). These extensions to the traditional (financial) notion of capital were introduced to provide a more holistic, that is, integrated view of the different types of capital that a company can use to create value, while simultaneously working to minimise its (negative) impact on the environment and society. IR is not compulsory for business organisations except in South Africa where listed companies are required to submit reports (or explain why not) on a quasi-mandatory basis (Solomon, 2013). However, corporations around the globe adopt it voluntarily due to social and reputational pressures. Ironically, most companies from dirty sectors (oil and gas, mining etc.) prepare integrated reports which, we suggest, are primarily aimed at managing their public image (Cho & Patten, 2007).

Table 1. The IR definitions of the six capitals

1. *Financial capital*: money and funds sourced through debt, equity and grants, or generated through operations or investments
2. *Manufactured capital*: physical, man-made objects including machinery and buildings; private and public infrastructure such as roads and bridges

Table 1. *(continued)*

3. *Intellectual capital*: knowledge-based intangibles, including management systems and intellectual sources of value such as patents, copyrights, and software

4. *Human capital*: people's skills, abilities, experience, motivation, intelligence, health, loyalty, and productivity

5. *Social and relationship capital*: institutions and relationships within and between communities, stakeholder groups and other networks; shared norms, common values and behaviour; trust the organization has fostered, i.e. brand and reputation

6. *Natural capital*: all renewable and non-renewable environmental resources and processes including air, water, minerals, forests, biodiversity, and the health of ecosystems

Since its introduction, IR has proved contentious, with critics arguing that it has made no substantive change in expanding accountability into broader social and environmental domains (Flower, 2015; Milne & Gray, 2013; O'Dwyer et al., 2024; Rowbottom & Locke, 2016). Others have been more optimistic, highlighting its role in encouraging businesses to move in the right direction (Adams, 2015; McNally & Maroun, 2018). However, most of the arguments in those debates are based on either regulatory documents produced by the IIRC (Flower, 2015) or a small selection of integrated reports often from one sector (Beck et al., 2017).

Our study builds on previous research on IR by analysing a large corpus of exemplary integrated reports produced by diverse companies across various industries and geographical regions. In other words, we investigate how the six capitals are discursively constructed and operationalised in the practice of IR. The reports we studied are exemplary in that they have been acknowledged as models of best practice reporting to follow. These reports are published on the IIRC website as benchmarks for companies willing to start publishing integrated reports, or for those wanting to improve their existing integrated reporting practices (IIRC, 2019). However, the process of deciding what constitutes best or exemplary practice is somewhat obscure. What is known is that the reports were selected by IIRC technical staff or other organisations such as big accounting firms (e.g. EY or PwC). However, there is no information as to who the technical staff are and how exactly these "arbiters of taste" (Robson & Ezzamel, 2023: 1) arrive at the judgment of best or leading practice. Also, although the reports represent the companies, many of them outsource the drafting of integrated reports to PR organisations, posing the question of who the producers of the reports actually are. This however rests outside the scope of our paper.

Studying discourses of the parent notion of capital and its offspring the living capitals in integrated reports considered as best or leading practice by the business world offers us a unique opportunity to better understand how the notion of capital and its six dimensions is conceived by that world. Considering that the col-

lective understanding of capital in the business community has traditionally centred on financial aspects, the question arises whether adding premodifiers such as *human, social*, and *natural* has genuinely broadened its meaning and significance to non-financial dimensions. Drawing on Firth's (1957) premise that meanings of words arise from combinations with neighbouring words in texts, it seems reasonable to assume that some degree of semantic change has occurred. However, the lingering question is the direction and extent of this change. From a purely lexico-grammatical perspective, premodifiers add more specific detail to the nouns that they describe. Adjectives such as *human, social*, and *natural* fall into the category of classifiers, modifying and limiting the semantic scope of the head noun to a specific category (Biber et al., 1999). Yet, within the noun *capital* itself lies an inherent classification — *financial* — even in the absence of the premodifier. This introduces a scenario of semantic competition in which the three premodifiers potentially contend with *financial* for semantic space. Hence, we can assume that if aspects associated with social, human, and natural dimensions are frequently mentioned in contexts in which these word combinations are used, a change in meaning might have happened, indicating a possible change in collective thinking towards more social and environmental sustainability and accountability. Conversely, if financial aspects still dominate the meaning constructions, we can possibly talk about mere 'semantic lip service'. Studying the use of the word combinations in a large corpus of integrated reports via frequencies, collocations, and concordance lines allows us to assess the extent to which a meaning change has occurred.

3.   Data and analytical procedures: Issues and challenges

This study uses analytical tools from corpus linguistics to explore discourses around the notion of capital in corporate integrated reporting endorsed as best practice. It is based on a large corpus of 105 reports comprising 4,842,089 words. The reports were published from 2013 to 2018 and cover various geographical regions and diverse industries including banking, finance and insurance, aviation, mining, technology, pharmaceuticals, and oil and food (see the full list in Appendix 1). All reports are in English, and the word count varies between 30,000 and 120,000 words, indicating that there is no standard when it comes to length. Each report was converted into plain text, and tables of contents, figures, and appendices containing extensive financial and numerical data were manually removed. The corpus, which we labelled the IR-Corpus, was uploaded to Sketch Engine (SE) (Kilgarriff et al., 2014). The choice of SE was motivated by the availability of the three analytical tools relevant to this study (frequency, collocation,

and concordance analysis) as well as access to large all-purpose reference corpora of present-day English, such as those from the TenTen corpus family.

To understand what kind of topics or themes are foregrounded by businesses in best practice integrated reporting, we first performed a keyword analysis. We compared the IR-Corpus with English Web 2018, which is part of the English Ten-Ten corpus family. The data used to compile English Web 2018 were sourced at around the same time as the best practice reports studied here were produced, making it a good reference corpus. SE calculates keyness based on a normalised frequency ratio with a simple math parameter added to account for the zero problem in divisions (see https://www.sketchengine.eu/documentation/simple-maths/). For the purposes of this analysis, the simple math parameter was set at 100, and the keyness cut-off point at 3.0. Using these parameters, we obtained 117 keywords. Because the IR-Corpus comprises reports of varied lengths from different businesses, we wanted to ensure that keywords retrieved accurately represented the corpus and were not determined by just a few longer reports. Therefore, we only considered keywords that occurred in 80 or more reports. Interestingly, most keywords complied with this restriction; we had to remove only 10 from the list, including items that point to specific businesses such as *mine, mining, ore*, and *tonne*; two abbreviations, *plc* and *ltd*; two proper names, *Arcelor-mittal* and *Rosneft*; and two items pointing to a region, *Africa* and *African*. The final list included 107 keywords which we grouped manually into semantic categories, a procedure adopted from previous research (Baker et al., 2013). The purpose of the categorisation was to understand the extent to which the top keywords represent the dimensions associated with the six capitals. To achieve this, a coding manual was devised based on the definitions of the six capitals provided in Section 2. Because the fifth capital (social and relationship) includes two groups of stakeholders, internal and external, two sub-codes *SR-Int* for internal relationships and *SR-Ext* for external relationships were included. The code *SR* was used if the distinction was not clear or specified. Table 2 shows a list of the applied codes and their meanings.

Table 2. Acronyms and meanings of codes used for the categorisation of keywords

Code labels	Meanings
F	**Financial capital:** keywords associated with finance, including money and funds sourced through debt, equity and grants, or operations or investments
M	**Manufactured capital:** keywords describing physical objects such as machinery, buildings, infrastructure etc.
I	**Intellectual capital:** keywords pointing to knowledge-based intangibles such as patents, copyrights, and software

Table 2. *(continued)*

Code labels	Meanings
H	**Human capital:** keywords describing people's skills, abilities, experience, motivation, intelligence, health, loyalty, and productivity
SR	**Social and relationship capital:** keywords pointing to general norms, behaviours, trust, brand and reputation (SR was allocated if it was not clear whether an item described an aspect associated with internal or external life of organizations)
SR-Int	Keywords pointing to relationships, communities, networks, shared norms, and behaviours within an organisation
SR-Ext	Keywords pointing to external relationships, communities, and networks
N	**Natural capital:** keywords describing renewable and non-renewable environmental resources and processes including air, water, minerals, forests, biodiversity, and ecosystems
O	**Other meanings** not included in the categories above or applicable to many categories

Two researchers, one specialising in (corpus) linguistics and the other in business and accounting, undertook the task of categorising keywords. We calculated the level of agreement in SPSS using Cohen's kappa coefficient. The score stood at 0.663, indicating moderate agreement. Scholars agreed in 75% of cases (80 keywords) and disagreed in 25% (27 keywords). Most of the disagreements involved keywords categorised as "other" by the linguist and as "financial" by the business/accounting scholar, largely because the linguist had less insight into some of the specific meanings these words have in the context of business discourse. Indicative examples of words with different meanings in everyday language are *value, equity*, and *ordinary*. To arrive at a more accurate representation of the meanings of the 107 keywords in context, we analysed random samples of 100 concordance lines using a concordance annotation tool in SE and the labels provided in Table 2. If a label was applied to more than 70 concordance lines, we assumed that the meaning represented by the label was the dominant interpretation of the keyword and the keyword was assigned to that category. Most disagreements were confirmed to have a financial meaning. After completing the keyword classification, we focused on the key term *capital* by performing a collocational analysis. LogDice was chosen as the metric for retrieving collocations because it highlights distinctive (though not necessarily rare) combinations (Gablasova et al., 2017). Researchers studying collocations using LogDice have applied a score of 7 or above as an indication of a strong collocational association (Egbert et al., 2020: 26). We also adopted a minimum LogDice score of 7, a frequency cut-off of 5, and a collocation span of four words to the left and right.

Items pertaining to new capitals were investigated in more depth via 100 randomly sampled concordance lines.

4.   Results

This section presents the main findings of the study. It begins with the results of the keyword analysis to shed light on the topics salient in the IR-Corpus overall (Section 4.1) It then examines collocations of *capital* to reveal the discursive ways in which the old-new notion of capital has been deployed in best practice integrated reporting (Section 4.2).

4.1   Results from the keyword analysis

Table 3 shows the results of our semantic classification of 107 keywords that occur in 80 or more reports (see Appendix 2 for the full list of keywords). The greatest number of keywords falls under the F category, suggesting that the financial capital and dimensions associated with it are foregrounded across the corpus. Of the 44 keywords in this category, 16 occur in all 105 reports. These are marked in italics in Table 3 and include items such as *value, invest, cash, growth*, and *share* that point to collective preoccupations with investments and increasing financial value. While items such as *cash* and *invest* have an inherent monetary meaning inscription, words such as *value* and *growth* might not be immediately associated with finance because they have additional meanings in everyday English. In the context of the discourse studied here, they mostly have financial associations. The item *growth*, which occurs 7,957 times in the corpus, illustrates this pattern. In general English, *growth* refers to an increase in size (OED, n.d.). However, in the context of the IR reports studied here, *increase* is understood almost exclusively in monetary terms as evidenced by the top 10 collocates of *growth* which include items such as *economic, revenue*, and *GDP* (see Table 4). Even items like *organic*, which in general English is associated with plants produced naturally with minimal or no of chemical substances (OED, n.d.), point to an increase in financial value, specifically, to an internal rise in outputs or sales.

Table 3. Keywords classified into the six capitals as semantic categories

Codes	Keywords	Total keywords (raw frequency)
F	*financial*, shareholder, *audit, sustainable, performance, statement, value*, portfolio, equity, auditor, billion, *operation*, target, finance, million, profit, *market*, incentive, consolidated, ordinary, banking, liability, *invest*, investor, *measure*, disclosure, debt, bonus, *cash*, investment, *business, growth, share*, dividend, revenue, net, *cost, income*, earnings, retail, accounting, expenditure, acquisition, ratio	44 (228,494)
M	*asset*, infrastructure	2 (8,190)
I	–	–
H	remuneration, *employee*, appoint, salary, safety, appointment	6 (28,148)
SR	*governance*, committee, *stakeholder*, engagement, *policy, meeting*	6 (45, 887)
SR-Int	CEO, *board, management, executive*, director, *strategic, strategy*, chairman, our, chief	10 (139, 414)
SR-Ext	non-executive, customer, *compliance*, regulatory, assurance, subsidiary, supplier	7 (27, 184)
N	environmental, emission, *sustainability*	3 (8, 931)
O	*capital,*[*] *risk, operate, reporting, impact, review, development, focus*, environment, *requirement, relevant, implement*, period, efficiency, *basis, manage*, exclude, *responsible*, long-term, *increase*, initiative, *responsibility, achieve, continue, improve, deliver*, approve, *sector*, align	29 (152, 836)

[*] The item *capital* was relegated to this category because of the recent expansion of its scope and because it is used with pre-modifiers such as *social, human*, and *natural*.

The second largest category is the group classified as *Other*. This group includes items that do not neatly fit dimensions associated with the six capitals. Most of the items in this category are verbs signalling positivity, agency, and a "can-do" attitude on the part of the businesses (e.g. *achieve, implement, improve, deliver*) and most of them occur in all reports. This collective positive business stance has been identified in precursors of integrated reporting, for example, environmental and corporate social reports (e.g. Bondi, 2016; Fuoli, 2012).

Table 4. Top 10 collocates of *growth*

Collocate	Freq.	LD score
economic	454	10.4
revenue	480	10.35
sustainable	337	9.92
drive	275	9.74
organic	210	9.68
opportunity	309	9.64
strong	233	9.48
GDP	164	9.34
rate	206	9.09
strategy	252	9.04

Items associated with non-financial capitals are less foregrounded. There are no words pointing to intellectual capital on the keyword list, and manufactured capital is represented by just two keywords. This may be influenced by the nature of the businesses included in our corpus (see Appendix 1). Greater representation of the technology or manufacturing sectors could produce more keywords associated with these two types of capitals. More items are associated with human capital, but these primarily focus on hiring employees and financial rewards. While the IR definitions of human and social and relationships capital emphasise employees' experiences and relationships beyond just hiring and rewarding, there is a conspicuous absence of keywords around matters such as equality, diversity, and inclusion (EDI), which are becoming increasingly important to employees (Jonsen et al., 2021; Oswick & Noon, 2014). Because of the inclusion of natural capital in the construct of six capitals and public demands towards greater sustainability, we also expected to see more words pertaining to environmental matters. Natural capital is represented by just three keywords, the top one being *environmental. Environment* is rarely used in the sense of natural environment; it predominantly means 'workplace'. The same applies to *sustainable* (but not *sustainability*), which is classified as a financial item because it mostly modifies nouns that have financial connotations. This is evidenced by top collocates such as *growth* and *value*, which are solely understood in monetary terms in business communities. Items pertaining to the social and relationship capital, especially those that reflect the internal workings and hierarchies of corporations, are more prominent on the list (ten keywords in total). Most point to executive management and leadership roles: *CEO, chairman, executive, board*, and *chief*.

All in all, the keyword analysis has shown that financial matters dominate the salient topics in best practice reporting. There is a strong focus on increasing monetary value as indicated by the prominence of *growth*, which, in many respects, contradicts the environmental challenges that would benefit from a slowdown in growth. Concerns and initiatives pertaining to living capitals are less salient; specifically, natural capital is not foregrounded as a salient topic.

4.2   The discourse of capitals

The term *capital* emerged as one of the most salient keywords in the IR-Corpus (in tenth place, see Appendix 2) with a normalised frequency of 1,758 per million tokens and a keyness score of 9.3. Given the expanded definition of capital promoted by the IR initiative, we sought to determine the extent to which the six dimensions are represented when referring to *capital* in IR best practice discourse. We did this by retrieving collocations that frequently co-occur with *capital* and studying 100 randomly sampled concordance lines of selected examples.

Table 5. The top 10 collocates of *capital*

Collocate	Freq.	LD Score
expenditure	889	11.23
human	943	11.19
intellectual	499	10.52
natural	462	10.34
relationship	501	10.26
social	481	10.04
manufacture	329	9.92
financial	814	9.85
share	621	9.81
return	347	9.73

Table 5 shows the top 10 collocates of *capital* in the IR-Corpus. The top collocate is *expenditure*, which has strong monetary associations. It is therefore not surprising that *capital + expenditure* is mostly used to refer to financial planning, cashflows, and budgeting processes. Studying concordance lines of this pair revealed that the most frequently used words in its vicinity are the nouns *budget* (17 times) and acquisition (17 times), along with the verb *incur* (14 times), all in relation to valuing and maintaining financial flows as Examples (1)–(3) illustrate:

(1)   Waco International uses internally generated cash to fund <u>capital expenditure</u> and acquisitions.   (Waco, 2016)

(2)   For 2017, we have increased our year-on year <u>capital expenditures</u> and exploration budget, by 71.1% over the 2016 spend, to US$950 million.

(Fresnillo, 2016)

(3)   The total <u>capital expenditure</u> incurred on property, plant and equipment of the Company and the Group (…) amounted to Rs. 280.64 million and Rs. 697.95 million respectively.   (Peoples Leasing & Finance, 2016)

The next top collocates form a group of seven words that point to the six types of capitals, suggesting that reporting on the non-financial types of capital might have become more embedded in best practice corporate. This could indicate a shift in how corporations are re-thinking the impact of their activities on society. To test this assumption, the collocation pairs *human + capital, natural + capital*, and *relationship + capital* were explored in their context of use. Because *human* had the second strongest association with *capital*, we began the analysis with this pair.

Although the term human capital has its roots in Adam Smith's thinking and is now firmly established in economic and corporate practices, it started to gain significance in the 1990s because of the rapid need for the so-called "knowledge worker" (Gleeson-White, 2015). For a long time, the modern economy and corporate world have operationalised human capital as a form of investment which is likely to yield higher returns, especially when recruited employees are highly skilled. This stems from a narrow understanding of human capital as education and experience that can lead to higher wages and productivity.

Exploring a list of 100 randomly sampled concordance lines of the candidate pair *human + capital* reveals that it appears alongside other types of capital in 46 instances, primarily: *intellectual* (10 times), *relationship* (9), and *financial* (7). Only four instances point to discourses about people or employees. In these instances, the companies emphasise that individuals, along with their capabilities and experiences, are at the heart of the business agenda. However, as demonstrated in Examples (4)–(7), people and their abilities are valued only as long as they innovate and are of use to the business and its objectives. This is stated explicitly in phrases such as "driving and embedding our Mission", "support our aspirations", and "achieve our short, medium and long term goals", which all include the collective pronoun *our* indexing the business.

(4)   <u>Human capital</u> represents people's competencies, capabilities, experiences and their motivation to innovate.   (Tata Steel, 2016)

(5)   <u>Human capital</u> — Our People Pillar and subsequent initiatives are aimed at driving and embedding our Mission of being the Best Employer to the Best People in Namibia.   (FNB Namibia Holdings, 2016)

(6)   <u>Human capital</u> — people, capacity and capability — to attract, retain and develop skills that support our aspirations.   (Sasria, 2017)

(7)   DIMO continues to adopt best practices in our human capital building process and today, we firmly believe that our <u>human capital</u> is ready to achieve our short, medium and long term goals.   (DIMO, 2017)

This discourse highlights two aspects of usage. First, it demonstrates that the term human capital is often used merely as a bullet point or isolated keyword phrase, much like those required for paper submissions or abstracts. Second, it suggests that the purpose of human capital is to address business priorities, rather than the needs of employees. Thus, the meanings associated with *capital* influence the semantic meaning of *human* and not vice-versa. In other words, we can observe a collocational directionality with the semantic weight expanding from *capital* — as something that businesses own and use to their advantage — to the notion of *human*. The term capital seems to imbue human beings with associations of value in business terms, effectively transforming them into a type of educated and experienced product whose sole purpose is to produce higher value for the business. This comes despite the fact that the IR definition of human capital includes dimensions beyond those that can be directly commercialised or are contributory to the business of the company, such as education and skills. According to IR, the focus should also be on aspects related to human wellbeing, like health and professional satisfaction. Such narrow conceptualisations of employees have been criticised in various disciplines for de-humanising people and their needs (Flower, 2015; Gleeson-White, 2015).

Studying the use of the collocational pair *natural + capital*, we notice a similar pattern. In 38 instances, the phrase is simply listed before or after other capitals, and in a further 31 concordance lines, it functions as a heading to a text section. In only eleven instances do we find direct references to natural resources. In five of those, there is an emphasis on the need to use natural resources to create value or sustain other core capitals such as manufactured capital, as in Examples (8)–(10):

(8)   <u>NATURAL CAPITAL</u> We require natural gas, shale gas, coal and crude oil as well as air, water, land and energy to convert hydrocarbon reserves into value-adding product streams.   (Sasol, 2017)

(9)   We apply our resources to convert <u>natural capital</u> into value across all the other capitals.   (Nampak Limited, 2016)

(10)   We require <u>natural capital</u> such as land and energy to deploy and operate our manufactured capital. Accessing these inputs diminishes financial and natural capital, the impact of which is lowered through energy efficiency initiatives and site sharing.   (Vodacom, 2017)

Only six instances out of 100 explicitly highlight a negative impact of business activities on the environment. This kind of admission is either immediately juxtaposed with an activity framed as green and sustainable, as in Example (11), as if to counteract negative news, or used to justify the action by referencing the importance of financial value creation, which is said to benefit all other types of capital, as illustrated in Example (12).

(11)   We impact negatively on <u>natural capital</u> by using non-renewable resources such as limestone, silica sand and soda ash. The use of cullet, however, impacts positively on natural capital and we will continue to increase the use of this recycled material.   (Nampak Limited, 2016)

(12)   We impact negatively on <u>natural capital</u> by using non-renewable resources, and through our emissions and wastes. In some instances, we also impact adversely on human and social and relationship capital through, for example, competition for resources such as water. However, by converting <u>natural capital</u> into value-added products, we boost the stocks of all the other capitals. By applying financial capital we sustain and grow our business, with positive impacts on manufactured, human, intellectual and social and relationship capital, and negative impacts on <u>natural capital</u>.   (Sasol, 2017)

(13)   Being cognisant that the exhaustion of <u>natural capital</u> results in a negative global impact, and that our business model is heavily dependent on this capital, Redefine believes that it is our moral obligation, as well as sustainable business practice, to ensure that we reduce and mitigate negative impacts on our <u>natural capital</u> stocks. Our environmental strategy, therefore, focuses on facilitating the reduction of the Company's environmental footprint while maintaining a positive effect on asset values.   (Redefine Properties, 2016)

In Example (13), the company seems to be aware that the extraction of natural resources has a negative impact, but only hints at its own involvement by stating that it "heavily" depends on these kinds of resources. The company sees it as its moral duty to reduce the impact, but its actual activities are nothing more than vague commitments. The report uses the phrase "focuses on facilitating the reduction of the Company's environmental footprint". By placing the gerund *facilitating* (here, to make something easier or to assist with something) between the noun *reduction* and the verb *focuses on*, the company softens its commitment to reducing its footprint by shifting the onus onto the process of facilitation rather than the

reduction itself. The sentence continues with a stronger commitment to upholding the financial status of the company.

Relationship is the fifth strongest collocate of *capital*, in most cases as part of the label Social and Relationship Capital. As with human capital, most instances of its use are bullet point-like, usually alongside other capitals. Only on eight occasions do companies provide further explanations or definitions of what they mean by this form of capital. These definitions typically refer to a wider range of stakeholders and/or corporate reputation.

(14)   Social and <u>relationship capital</u> — We contribute to helping the communities in which we operate and recognise that this is an integral part of our business sustainability. We also focus on building partnerships with trade unions and other structured engagement forums to effectively manage the risks associated with industrial action.   (Nampak Limited, 2016)

(15)   Through our social and <u>relationship capital</u> (e.g. relationships with commercial and academic partners, regulators, suppliers, customers, communities, labour unions, the media and more), we build both tangible and intangible value expressed through mutual trust, collaborative ventures, new innovations and value-added products and services. Positive stakeholder relations contribute to commercial stability (e.g. through strong customer and supplier relationships) and organisational stability.   (Transnet, 2017)

(16)   Social and <u>relationship capital</u> — by enabling us to extend our services to a wider geographical location.   (IDLC Finance, 2016)

In all instances in which the social and relationship capital is defined and discussed, it is clearly positioned as a component that adds value to the business or enhances operations, with financial considerations being key. In Example (14), engagement with unions is seen as a form of this capital, but this is important not for the purpose of, for example, improving work conditions for employees, but rather for mitigating risks of industrial action. Industrial action might lead to loss of revenue, and it is therefore not surprising to see it conceptualised as risky. In Example (15), the social and relationship capital is explicitly leveraged to increase innovation and commercial stability, while in Example (16) it is seen as an enabler for a business expansion. In other words, social capital is considered so far as it supports the business of the company.

5.   Discussion and conclusions

We commenced this paper by posing the question of whether corporate collective thinking (Douglas, 1986) around the notion of capital, as exemplified by the public corporate discourse of IR, has evolved, that is, whether social and human values and concerns around sustainability have been more strongly embraced. This is a pertinent issue because "for too long businesses have expressed themselves only in the narrow form of financial transactions … that hides from view the rich seams of value that can be found in knowledge, intellect, natural resources and relationships" (Druckman, 2013, as cited in Gleeson-White, 2015: 190). Our study reveals that in terms of pure frequency, we can answer the question in the affirmative: indeed, corporate discourse produced for public consumption assigns significance to aspects other than financial. The collocation analysis of the term *capital* has shown that the term frequently co-occurs with *human, relationship*, and *natural*. Yet, detailed examination of how human, natural, or relationship capital are actually deployed in the reports shows that they are used to serve the corporate means that drive bottom-line value creation, where value is mostly conceptualised in financial terms.

Although the notion of living capitals is frequently mentioned, mere frequencies cannot be equated with the deeper consideration of core aspects pertinent to the human, social, and environmental challenges we face. This raises the question: Have the institutional solutions designed to address those challenges been hijacked by the corporate agenda (Tregidga et al., 2018)? Our findings point to a particular management strategy of sustainability which we have termed 'management by keywords'. This strategy simply involves managing the response to societal demands and challenges by listing terms pertaining to the new or living capitals as part of a coordination (one mentioned after another separated with a comma or the conjunction *and*) to bring forth an image of a responsible and proactive corporate citizen. A similar pattern was observed by Lischinsky (2015) in his study on the use of the term *environment* in CSR reports from Swedish companies. The term was mostly discussed alongside other abstract concepts pertaining to ethical matters such as human rights or health and safety.

This suggests that corporations may use references to social and environmental capital — even *en masse* — to demonstrate to the public that they care and are therefore qualified to maintain their social license to operate without having to significantly change their practices. This is particularly concerning given that this strategy prominently features in corporate public discourse which is considered best practice. Such discourse is likely to drive future understanding of what constitutes enhanced accountability in the corporate world, leaving scant optimism

that novel CSR practices such as that of six capitals can drive transformation of corporate practices and therefore greater sustainability.

There are other important implications for the publics' reading and interpretation of integrated reports. As our own engagement with the reports and classification of keywords has shown, seemingly universal terms like *value* and *growth* can be understood differently by different stakeholders. The public may interpret these terms in their broader meanings, whereas business actors are likely to interpret them narrowly, primarily through a financial lens. We therefore argue that corporate rhetors might be exploiting the polysemy of words like *value* and *growth* as yet another aspect of the strategy which has been described as "discursive smoothing" (Gillings & Dayrell, 2024:113) or "discursive grooming" (Jaworska, 2018:215), in other words, the rhetorical reassurance of the public that the business world does good (Jaworska & Nanda, 2018), while any negative associations such as those pertaining to sole profit orientation and money are downplayed or erased from the discourse.

One of the objectives of this study was to demonstrate how a corpus-based approach to discourse can promote interdisciplinary research between linguists and scholars in business and accounting. Specifically, it aimed to illustrate how the tools and methods can facilitate a triangulation at the level of two different epistemic communities. We would like to conclude with some reflections on what the co-authors of this paper have learnt from engaging in this cross-boundary research (Gendron & Rodrigue, 2021) and what our respective disciplinary backgrounds have contributed to the different stages of the research process.

What brought us together was a shared interest in discourse, particularly the idea that discourse both reflects and enacts the dominant practices of professional communities, in this case, the business community. It was the accounting scholars who drew attention to the relevance of IR in the context of multi-capital reporting, and to exemplary reports within the practice of IR. They were the decisive force behind the selection of data and corpus creation, identifying the notion of six capitals as the focus because of its current significance in academic debate and the professional business world. This exemplifies how collaborations with researchers from outside of corpus linguistics can and shape and enrich the scope and thematic focus of a project and corpus compilation, leading to research that tackles timely and relevant issues. The collaboration also influenced data analysis and interpretation of results. For example, the process of classifying keywords highlighted some inaccuracies that can arise when specialist discourse is studied without input from a person familiar with practices of the professional community that produces it. The collaboration revealed that words acquire specific and sometimes nuanced meanings within the context of corporate reporting. These

meanings might be less familiar to a linguist, who may be inclined to associate words with their everyday and perhaps more general meanings.

A corpus-based approach can make important conceptual and analytical contributions to business communication. First, it can reveal meanings and representations that are shared across texts and genres produced by business communities, pointing to dominant ways of seeing and doing things, i.e. collective professional mentalities (see Stenka & Jaworska, 2019) that might not be immediately apparent or discernible by studying a small selection of texts. Second, it can help understand the mechanics and purpose(s) underlying discursive strategies employed by corporate actors. Accounting scholars who study language have generally adopted either qualitative or quantitative approaches (Tregidga et al., 2012), often trading off breadth for depth (or vice versa) in their analysis (Stenka & Jaworska, 2019). Qualitative approaches allow for in-depth explorations of the discourse, but data sets are usually small and analysed manually, making it difficult to uncover shared business mentalities. Quantitative approaches such as topic modelling allow large data sets to be examined, providing breadth of analysis and, arguably, more objective and generalisable findings. However, quantitative methods can simplify language use, reducing its contextual and semantic dimensions. By combining quantitative and qualitative methods, the corpus-based approach allows for a synergy of different perspectives "providing both a bird's eye and street level view and simultaneously combining breadth and depth of the analysis" (Stenka & Jaworska, 2019: 2).

The analytical tools of corpus linguistics coupled with a focus on words and word combinations can provide new insights and deepen the understanding of discourse in accounting and general business studies. This approach goes beyond examining *what* is said to explore *how* it is communicated. For instance, the strategy of management by keywords became evident not only through the frequent use of terms like "natural" or "human capital" in the corpus, but also by examining their arrangement within the discourse—specifically, what was mentioned before and after these terms. This understanding was achieved through collocation and concordance analyses, which provided insights into the co-text and the dynamics of the discourse (Gillings & Mautner, 2024). Finally, our joint corpus analysis allowed us to understand how terms pertaining to a novel business discourse are used in the specific corporate context studied and provided insight into the associations these terms have. This both validated and challenged our intuitions, which are partly influenced by the different epistemic communities we belong to, and the kind of meanings that those communities assign to words and phrases.

Funding

References

Adams, C.A. (2015). The international integrated reporting council: A call to action. *Critical Perspectives on Accounting*, *27*, 23–28.

Baker, P. (2006). *Using corpora in discourse analysis*. Continuum.

Baker, P., Gabrielatos, C., & McEnery, T. (2013). *Discourse analysis and media attitudes*. Cambridge University Press.

Beattie, V. (2014). Accounting narratives and the narrative turn in accounting research: Issues, theory, methodology, methods and a research framework. *The British Accounting Review*, *46*(2), 111–134.

Beck, C., Dumay, J., & Frost, G. (2017). In pursuit of a 'single source of truth': From threatened legitimacy to integrated reporting. *Journal of Business Ethics*, *141*(1), 191–205.

Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman grammar of spoken and written English*. Longman.

Bondi, M. (2016). The future in reports: Prediction, commitment and legitimization in corporate social responsibility (CSR). *Pragmatics and Society*, *7*(1), 57–81.

Breeze, R. (2012). Legitimation in corporate discourse: Oil corporations after Deepwater Horizon. *Discourse & Society*, *23*(1), 3–18.

Brown, J., & Dillard, J. (2014). Integrated reporting: On the need for broadening out and opening up. *Accounting, Auditing & Accountability Journal*, *27*(7), 1120–1156.

Brown, J., & Tregidga, H. (2017). Re-politicizing social and environmental accounting through Rancière: On the value of dissensus. *Accounting, Organizations and Society*, *61*, 1–21.

Buhr, N., & Reiter, S. (2006). Ideology, the environment and one world view: A discourse analysis of Noranda's environmental and sustainable development reports. In M. Freedman & B. Jaggi (Eds.), *Environmental accounting* (pp. 1–48). Emerald Group Publishing Limited.

Cannan, E. (1921). Early history of the term capital. *The Quarterly Journal of Economics*, *35*(3), 469–481.

Chelli, M., & Gendron, Y. (2013). Sustainability ratings and the disciplinary power of the ideology of numbers. *Journal of Business Ethics*, *112*(2), 187–203.

Cho, C.H., & Patten, D.M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society*, *32*(7–8), 639–647.

Cho, C.H., Roberts, R.W., & Patten, D.M. (2010). The language of US corporate environmental disclosure. *Accounting, Organizations and Society*, *35*(4), 431–443.

D'Adderio, L. (2008). The performativity of routines: Theorising the influence of artefacts and distributed agencies on routines dynamics. *Research Policy*, *37*(5), 769–789.

doi de Villiers, C., & Dimes, R. (2023). Will the formation of the International Sustainability Standards Board result in the death of integrated reporting? *Journal of Accounting & Organizational Change*, *19*(2), 279–295.

doi de Villiers, C., Rinaldi, L., & Unerman, J. (2014). Integrated Reporting: Insights, gaps and an agenda for future research. *Accounting, Auditing & Accountability Journal*, *27*(7), 1042–1067.

Douglas, M. (1986). *How institutions think*. Syracuse University Press.

doi Egbert, J., Larsson, T., & Biber, D. (2020). *Doing linguistics with a corpus: Methodological considerations for the everyday user*. Cambridge University Press.

Firth, J. R. (1957). *Papers in linguistics 1934–1951*. Oxford University Press.

doi Flower, J. (2015). The international integrated reporting council: A story of failure. *Critical Perspectives on Accounting*, *27*, 1–17.

doi Freeman, R. E., Martin, K., & Parmar, B. (2007). Stakeholder capitalism. *Journal of Business Ethics*, *74*, 303–314.

Friedman, M. (1970, September 13). A Friedman doctrine — The social responsibility of business is to increase its profits. *New York Times Magazine*. https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html

doi Fuoli, M. (2012). Assessing social responsibility: A quantitative analysis of Appraisal in BP's and IKEA's social reports. *Discourse & Communication*, *6*(1), 55–81.

doi Gablasova, D., Brezina, V., & McEnery, T. (2017). Collocations in corpus-based language learning research: Identifying, comparing, and interpreting the evidence. *Language Learning*, *67*(S1), 155–179.

doi Gendron, Y., & Rodrigue, M. (2021). On the centrality of peripheral research and the dangers of tight boundary gatekeeping. *Critical Perspectives on Accounting*, *76*, Article 102076.

doi Gibassier, D., Rodrigue, M., & Arjaliès, D. L. (2018). Integrated reporting is like God: No one has met Him, but everybody talks about Him: The power of myths in the adoption of management innovations. *Accounting, Auditing & Accountability Journal*, *31*(5), 1349–1380.

doi Gillings, M., & Dayrell, C. (2024). Climate change in the UK press: Examining discourse fluctuation over time. *Applied Linguistics*, *45*(1), 111–133.

doi Gillings, M., & Mautner, G. (2024). Concordancing for CADS: Practical challenges and theoretical implications. *International Journal of Corpus Linguistics*, *29*(1), 34–58.

Gleeson-White, J. (2015). *Six capitals, or can accountants save the planet? Rethinking capitalism for the twenty-first century*. W. W. Norton & Company.

doi Higgins, C., Stubbs, W., & Love, T. (2014). Walking the talk(s): Organisational narratives of integrated reporting. *Accounting, Auditing & Accountability Journal*, *27*(7), 1090–1119.

doi Hodgson, G. M. (2014). What is capital? Economists and sociologists have changed its meaning: Should it be changed back? *Cambridge Journal of Economics*, *38*(5), 1063–1086.

IIRC. (2013). *The International <IR> Framework*. https://www.integratedreporting.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf

IIRC. (2019). *Integrated Reporting examples database*. https://examples.integratedreporting.org/home

Jaworska, S. (2018). Change but no climate change: Discourses of climate change in corporate social responsibility reporting in the oil industry. *International Journal of Business Communication*, *55*(2), 194–219.

Jaworska, S., & Nanda, A. (2018). Doing well by talking good: A topic modelling-assisted discourse study of corporate social responsibility. *Applied Linguistics*, *39*(3), 373–399.

Jonsen, K., Point, S., Kelan, E., & Grieble, A. (2021). Diversity and inclusion branding: A five-country comparison of corporate websites. *The International Journal of Human Resource Management*, *32*(3), 616–649.

Kilgarriff, A., Baisa, V., Bušta, J., Jakubíček, M., Kovář, V., Michelfeit, J., Rychlý, P., & Suchomel, V. (2014). The Sketch Engine: Ten years on. *Lexicography*, *1*(1), 7–36.

Lischinsky, A. (2015). What is the environment doing in my report? Analyzing the environment-as-stakeholder thesis through corpus linguistics. *Environmental Communication*, *9*(4), 539–559.

Malsch, B. (2013). Politicizing the expertise of the accounting industry in the realm of corporate social responsibility. *Accounting, Organizations and Society*, *38*(2), 149–168.

McNally, M.A., & Maroun, W. (2018). It is not always bad news: Illustrating the potential of integrated reporting using a case study in the eco-tourism industry. *Accounting, Auditing & Accountability Journal*, *31*(5), 1319–1348.

Milne, M.J., & Gray, R. (2013). W(h)ither ecology? The triple bottom line, the global reporting initiative, and corporate sustainability reporting. *Journal of Business Ethics*, *118*(1), 13–29.

O'Dwyer, B., Humphrey, C., & Rowbottom, N. (2024). From institutional integration to institutional demise: The disintegration of the International Integrated Reporting Council (IIRC). *Critical Perspectives on Accounting*, *99*, Article 102699.

Oswick, C., & Noon, M. (2014). Discourses of diversity, equality and inclusion: Trenchant formulations or transient fashions? *British Journal of Management*, *25*(1), 23–39.

OED. (n.d.). Growth. In *OED | Oxford English Dictionary*. Oxford University Press. Retrieved August 6, 2024, from https://www.oed.com/dictionary/growth_n1?tab=factsheet

OED. (n.d.). Organic. In *OED | Oxford English Dictionary*. Oxford University Press. Retrieved August 6, 2024, from https://www.oed.com/dictionary/organic_adj?tab =factsheet#33325143

Pollach, I. (2012). Taming textual data: The contribution of corpus linguistics to computer-aided text analysis. *Organizational Research Methods*, *15*(2), 263–287.

Power, M. (2021). The financial reporting system — what is it? *Accounting and Business Research*, *51*(5), 459–480.

Reinecke, J., & Ansari, S. (2016). Taming wicked problems: The role of framing in the construction of corporate social responsibility. *Journal of Management Studies*, *53*(3), 299–329.

Robson, K., & Ezzamel, M. (2023). The cultural fields of accounting practices: Institutionalization and accounting changes beyond the organization. *Accounting, Organizations and Society*, *104*, Article 101379.

Rowbottom, N., & Locke, J. (2016). The emergence of <IR>. *Accounting and Business Research*, *46*(1), 83–115.

Solomon, J. (2013). *Corporate governance and accountability* (4th ed.). Wiley.

doi Stenka, R. (2022). Beyond intentionality in accounting regulation: Habitual strategizing by the IASB. *Critical Perspectives on Accounting*, *88*, Article 102294.

doi Stenka, R., & Jaworska, S. (2019). The use of made-up users. *Accounting, Organizations and Society*, *78*, Article 101055.

doi Tregidga, H., Milne, M., & Kearins, K. (2014). (Re)presenting 'sustainable organizations'. *Accounting, Organizations and Society*, *39*(6), 477–494.

doi Tregidga, H., Milne, M., & Kearins, K. (2018). Ramping up resistance: Corporate sustainable development and academic research. *Business & Society*, *57*(2), 292–334.

doi Tregidga, H., Milne, M., & Lehman, G. (2012). Analyzing the quality, meaning and accountability of organizational reporting and communication: Directions for future research. *Accounting Forum*, *36*(3), 223–230.

doi van Bommel, K., Rasche, A., & Spicer, A. (2023). From values to value: The commensuration of sustainability reporting and the crowding out of morality. *Organization & Environment*, *36*(1), 179–206.

Appendix 1. A list of companies whose integrated reports were included in the IR-Corpus

Adapt IT 2017	IDC 2014
Aegon 2017	IDLC Finance 2016
Airports Company SA 2014	Implats Platinum 2017
Anglo Platinum 2017	ING 2016
AngloGold Ashanti 2016	Intercontinental Hotel Group 2017
ArcelorMittal 2014	Itau Unibanco Holding 2017
ArcelorMittal SA 2016	Itochu Corporation 2015
Arguden Governance Academy 2016	KiwiRail 2016
Asahi Group 2014	Kumba Iron Ore 2017
Aspen Pharmacare 2016	Lendlease 2017
Aspiag Service 2016	Liberty Holdings 2016
ATSNC 2014	Life Healthcare Group 2016
Auditor General SA 2017	Lloyd Banking 2017
BAE Systems 2017	Marks & Spencer 2017
Barclays Africa 2017	Marui Group 2016
Barloworld 2016	Mediclinic 2017
British American Tobacco 2017	Meridian Energy 2017
British Land 2017	Mitusi & Co. 2016
Broadband Infraco 2016	MTN Group 2017
Browns and Company 2017	Nampak Limited 2016

Appendix 1. *(continued)*

BT Group 2017	Nedbank 2016
Capricorn Group 2017	Novo Nordisk 2016
CBUS 2017	Peoples Leasing & Finance 2016
CEF 2014	Pretoria Portland Cement Company 2014
Cemex 2017	Redefine Properties 2016
Coca-Cola HBC 2016	Road Accident Fund 2015
Competition Tribunal 2017	Rosneft 2017
CPA Australia 2014	Royal Bafokeng Platinum 2017
Crest Nicholson 2016	Sage 2014
Crown Estate 2018	SAICA 2016
DBS 2017	Sanford 2017
DBSA 2016	Sanlam 2015
Dellas 2016	Santova 2017
Denel 2014	Sasol 2017
Dentsu 2017	Sasria 2017
DIMO 2017	South African Airways 2014
DSM 2017	Stafer 2016
Duchy of Cornwall 2017	Standard Bank Group 2016
enBW 2017	Stockland 2013
EOH Holdings 2016	Strate 2017
Eskom 2017	Swaziland Sugar Associations 2015
Eurazeo 2016	Talawakelle Tea Estates 2016
Exxaro 2017	Tata Steel 2016
FMO 2017	Telkom SA 2014
FNB Namibia Holdings 2017	Transnet 2017
Fresnillo 2016	Truworths 2017
Generali 2017	Tsogo Sun Holdings 2015
Go-Ahead 2017	Unitied Utilities 2017
Gold Fields 2017	Vodacom 2017
Halfords 2017	Waco 2016
Hammerson 2014	Wilderness Holdings 2015
Harmony Gold Mining Company 2015	York Timbers 2017
Hulamin 2016	

Appendix 2. Keyword list

Item	Frequency IR-Corpus	Frequency English Web 2018	Relative frequency IR-Corpus	Relative frequency English Web 2018	No. of Reports	Keyness score
1. remuneration	7,739	109,848	1,295	3	100	13.6
2. governance	8,228	988,953	1,377	23	105	12.0
3. financial	18,328	7,089,604	3,068	164	105	12.0
4. risk	20,411	8,354,168	3,417	194	105	12.0
5. shareholder	7,316	631,266	1,225	15	98	11.6
6. committee	16,559	6,532,129	2,772	151	104	11.4
7. audit	7,497	1,041,867	1,255	24	105	10.9
8. board	19,366	9,735,068	3,242	226	105	10.3
9. stakeholder	6,280	1,044,106	1,051	24	105	9.3
10. capital	10,504	4,350,234	1,758	101	105	9.3
11. management	18,645	10,905,152	3,121	253	105	9.1
12. executive	10,101	4,333,582	1,691	100	105	8.9
13. director	13,498	8,327,729	2,259	193	103	8.1
14. performance	14,118	8,971,456	2,363	208	105	8.0
15. strategic	6,411	2,064,020	1,073	48	105	7.9
16. employee	10,280	5,667,819	1,721	131	105	7.9
17. non-executive	3,606	39,172	604	1	89	7.0
18. asset	5,846	2,772,760	979	64	105	6.6
19. strategy	8,429	5,688,923	1,411	132	105	6.5
20. cash	5,324	2,503,878	891	58	105	6.3
21. investment	7,396	4,897,663	1,238	114	103	6.3
22. business	21,478	21,525,791	3,595	499	105	6.2
23. customer	10,015	8,732,369	1,676	202	104	5.9
24. growth	7,957	6,233,025	1,332	145	105	5.9
25. share	12,093	11,958,749	2,024	277	105	5.6
26. compliance	3,954	1,531,971	662	36	105	5.6
27. chairman	4,189	1,859,151	701	43	101	5.6
28. our	51,301	62,629,400	8,587	1,452	104	5.6
29. sustainability	3,459	1,019,667	579	24	105	5.5
30. dividend	2,928	393,508	490	9	90	5.4

Appendix 2. *(continued)*

Item	Frequency IR-Corpus	Frequency English Web 2018	Relative frequency IR-Corpus	Relative frequency English Web 2018	No. of Reports	Keyness score
31. statement	6,612	5,559,653	1,107	129	105	5.3
32. operate	7,312	6,519,702	1,224	151	105	5.3
33. reporting	3,172	1,032,373	531	24	105	5.1
34. value	11,431	12,856,518	1,913	298	105	5.1
35. revenue	4,202	2,624,785	703	61	103	5.0
36. net	4,153	2,618,523	695	61	104	4.9
37. portfolio	3,156	1,272,690	528	30	98	4.9
38. sustainable	3,463	1,910,058	580	44	105	4.7
39. equity	2,998	1,205,394	502	28	103	4.7
40. auditor	2,357	324,667	395	8	104	4.6
41. regulatory	3,008	1,351,967	504	31	100	4.6
42. billion	4,477	3,779,735	749	88	87	4.5
43. operation	6,557	7,174,194	1,098	166	105	4.5
44. impact	6,556	7,294,015	1,097	169	105	4.4
45. engagement	3,108	1,747,152	520	41	102	4.4
46. target	5,576	5,866,346	933	136	104	4.4
47. review	8,665	11,027,023	1,450	256	105	4.4
48. finance	3,488	2,634,964	584	61	104	4.2
49. assurance	2,282	594,561	382	14	99	4.2
50. million	8,272	11,023,755	1,385	256	101	4.2
51. profit	3,174	2,210,302	531	51	97	4.2
52. long-term	2,910	1,916,373	487	44	97	4.1
53. increase	10,544	15,520,414	1,765	360	105	4.1
54. initiative	3,435	3,180,516	575	74	104	3.9
55. subsidiary	2,004	523,391	335	12	92	3.9
56. market	9,381	14,480,131	1,570	336	105	3.8
57. incentive	2,173	933,259	364	22	96	3.8
58. development	9,893	15,634,166	1,656	363	105	3.8
59. supplier	2,315	1,349,293	388	31	100	3.7
60. consolidated	1,699	197,901	284	5	93	3.7
61. chief	3,799	4,396,355	636	102	103	3.6

Appendix 2. *(continued)*

Item	Frequency IR-Corpus	Frequency English Web 2018	Relative frequency IR-Corpus	Relative frequency English Web 2018	No. of Reports	Keyness score
62. responsibility	3,325	3,466,376	557	80	105	3.6
63. achieve	4,139	5,143,509	693	119	105	3.6
64. environmental	3,637	4,209,465	609	98	102	3.6
65. cost	7,495	11,998,938	1,255	278	105	3.6
66. income	3,284	3,519,302	550	82	105	3.6
67. earnings	1,838	629,721	308	15	95	3.6
68. policy	6,847	10,916,975	1,146	253	105	3.5
69. appoint	2,578	2,225,628	432	52	103	3.5
70. ordinary	2,029	1,204,697	340	28	82	3.4
71. continue	8,184	14,228,159	1,370	330	105	3.4
72. improve	5,394	8,696,816	903	202	105	3.3
73. deliver	3,976	5,656,266	666	131	103	3.3
74. meeting	4,865	7,615,486	814	177	105	3.3
75. salary	1,919	1,191,952	321	28	96	3.3
76. banking	1,838	1,055,109	308	24	80	3.3
77. focus	6,061	10,369,868	1,015	240	105	3.3
78. approve	2,670	2,893,048	447	67	104	3.3
79. retail	2,102	1,723,275	352	40	80	3.2
80. accounting	1,806	1,075,522	302	25	100	3.2
81. expenditure	1,590	683,048	266	16	97	3.2
82. sector	3,181	4,358,731	532	101	105	3.1
83. environment	4,350	7,082,724	728	164	104	3.1
84. infrastructure	2,344	2,535,366	392	59	104	3.1
85. safety	3,712	5,760,023	621	134	101	3.1
86. acquisition	1,808	1,315,030	303	30	98	3.1
87. ratio	1,894	1,563,156	317	36	97	3.1
88. align	1,618	935,218	271	22	99	3.0
89. responsible	2,702	3,506,304	452	81	105	3.0
90. liability	1,674	1,092,430	280	25	103	3.0
91. requirement	3,654	5,818,634	612	135	105	3.0
92. relevant	2,416	2,870,187	404	67	105	3.0

Appendix 2. *(continued)*

Item	Frequency IR-Corpus	Frequency English Web 2018	Relative frequency IR-Corpus	Relative frequency English Web 2018	No. of Reports	Keyness score
93. invest	2,075	2,061,897	347	48	105	3.0
94. investor	2,054	2,042,421	344	47	95	3.0
95. implement	2,842	3,942,457	476	91	104	3.0
96. appointment	1,920	1,733,451	321	40	97	3.0
97. exclude	1,571	1,169,741	263	27	87	3.0
98. measure	4,089	6,969,750	684	162	105	3.0
99. disclosure	1,530	832,429	256	19	100	3.0
100. debt	2,094	2,394,946	351	56	97	3.0
101. bonus	1,690	1,410,935	283	33	87	3.0
102. emission	1,835	1,581,035	307	37	88	3.0
103. basis	2,744	3,927,284	459	91	105	3.0
104. manage	3,942	6,998,513	660	162	105	3.0
105. period	4,706	8,650,298	788	201	104	3.0
106. efficiency	1,959	1,961,801	328	45	99	3.0
107. ceo	3,675	6,011,050	615	139	94	3.0

Address for correspondence

Sylvia Jaworska
English Language and Applied Linguistics
University of Reading
Whiteknights
Reading, RG6 6UD
United Kingdom
s.jaworska@reading.ac.uk
https://orcid.org/0000-0001-7465-2245

Co-author information

Renata Stenka
Henley Business School
University of Reading
r.i.stenka@henley.ac.uk

Emre Parlakkaya
Henley Business School
University of Reading
mehmetemre.parlakkaya@henley.ac.uk

Publication history