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# Voluntary disclosure and intellectual capital: how CEOs mobilise discretionary accounting narratives to account for value creation stemming from intellectual capital

Received 19 April 2020
Revised 30 October 2020
10 February 2021
Accepted 14 March 2021

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## Abstract

**Purpose** – This research aims to contribute to the current discussion led by international accounting bodies on intellectual capital narratives. Before setting a standard, a preliminary step is to highlight intellectual capital components' sources of value. The objective of this exploratory paper is to contribute to the discussion by proposing a detailed description and taxonomy of intellectual capital based on an analysis of discretionary accounting narrative disclosures in CEO letters.

**Design/methodology/approach** – To answer the research question, a computerised lexical content analysis was done of 241 letters from the CEOs of S&P Euro 350 companies addressed to shareholders.

**Findings** – Beyond the required disclosures about balance sheet intangibles, this study brings to light discretionary narratives about human, digital, customer and environmental capital and their interactions. In particular, CEOs are promoting two new themes, environmental capital and digital capital, as major contributors to value creation.

**Research limitations/implications** – The limitations of this study are inherent in the media studied, namely the CEOs' letters to shareholders, which were written as part of the firms' official communication.

**Practical implications** – The main contribution of the research is a detailed description of the intellectual capital components that CEOs consider to be at the heart of their companies' models to create value. Human and customer capital were already familiar under the previous classification, but CEOs present digital and environmental capital as areas of opportunity or risk in their discretionary narratives.

**Originality/value** – The article contributes to the current international discussions on intellectual capital by focusing on discretionary accounting narratives. It seeks to provide guidelines concerning future standards in the current stage of intellectual capital research.

**Keywords** Discretionary accounting narratives, Intangible capital, Intellectual capital disclosure, Content analysis, Standardisation, Environmental capital, Digital capital

**Paper type** Research paper



*Funding:* This work was funded by the French accounting standards setter as part of a research programme on intangibles.


© Emerald Publishing Limited
0967-5426
DOI 10.1108/JAAR-04-2020-0073

## 1. Introduction

In the post-industrial economy, intangible capital has overtaken its tangible counterpart as the type of capital creating the most value for the firm (Dean and Kretschmer, 2007). In 2015, intangible capital accounted for 84% of S&P 500 companies' market value, compared with 68% in 1995 and only 15% in 1975, according to an Ocean Tomo [1] study (2015).

Intangible capital encompasses all of the intangible resources and capabilities that the firm owns or controls and uses to do business, create value and distinguish itself from its competitors (Brooking, 1996; Edvinsson and Malone, 1997; Sveiby, 1997). Intangible capital, such as brands, customer relationships, technology, working procedures and methods, along with human capital, includes all of the firm's resources without physical substance that have an economic value and are likely to produce future cash flows and profits (Bessieux-Ollier *et al.*, 2014). In simple terms, intellectual capital is intangible capital that is not recognised in the financial statements (Castilla-Polo and Gallardo-Vazquez, 2016).

Yet, intangible capital gives rise to a host of accounting problems, as shown by the large amount that cannot be recognised on the firm's balance sheet. The accounting rules of the past 20 years have not succeeded in slowing down the "deterioration, both perceived and actual, of the relevance of financial information to investors" (Lev, 2018). The recognition of intangible assets is subject to conditions and limited by tight standards (Zeghal and Maaloul, 2011). According to Lev (2018), we are in an "accounting impasse", and the result is "a large uninformative balance sheet" that fails to reflect both corporate performance and the quality of management because the intellectual capital influences the firm's share price.

Given the difficulty of including these key elements in the balance sheet, companies have to find other ways to account for their intangible resources. The voluntary disclosure of intellectual capital reduces information asymmetry and improves analysts' valuation (Maaloul and Zeghal, 2016; Vanini and Rieg, 2019). This issue has been identified on the international level as a key area of research by several accounting standards setters such as the International Accounting Standards Board (IASB) through its work on disclosures accompanying financial statements (IASB, 2017, 2018), the Financial Reporting Council (FRC) with its discussion paper on business reporting of intangibles (FRC, 2019) and the European Financial Reporting Advisory Group (EFRAG) with its research project on better information on intangibles (2018). Our research aims to contribute to this current discussion spearheaded by these main standard-setting and advisory bodies. More specifically, it attempts to address two of the three aspects raised by the IASB: the lack of relevant information on intangibles and the ineffectiveness of the information disclosed, which brings us back to the need to standardise the intangible disclosure based on more codified practices (IASB, 2017). The objective is to make discursive disclosure more relevant and, thus, supplement quantitative data to better understand the firm's business models and inform investors' decision-making (Holland, 2003; Mouritsen, 2003). Hence, our interest is in discretionary accounting narratives which are defined as "accounting narratives outside the audited accounts (. . .) that generally appear in unregulated sections of corporate documents to support and expand upon the regulated accounting disclosures in the audited financial statements" (Brennan and Merkl-Davies, 2013, p. 5). Among discretionary accounting narratives, we more specifically focus on the CEO letter to shareholders, as it is the most widely read document, the most freely expressed and the one that is said to provide relevant and useful information on the future benefits of the firm (Patelli and Pedrini, 2014; Yuthas *et al.*, 2002). Hence, the objective of this exploratory paper is to contribute to the discussion on the discretionary accounting narratives on intellectual capital by providing a detailed description and taxonomy of the intangibles voluntarily highlighted by listed companies. This approach answers several calls for research by first, having more accounting-based research into communication on strategy and value creation (Beattie and Smith, 2013; Bukh, 2003), and, second, improving knowledge about intangibles by placing greater emphasis on firms' narratives (Castilla-Polo and

Gallardo-Vazquez, 2016; Kaufmann and Schneider, 2004). With this in mind, we conducted a computerised lexical content analysis of the letters of 241 CEOs from S&P Euro 350 companies, published in December 2016. Content analysis is seen as a suitable method to investigate intellectual capital disclosure (Guthrie *et al.*, 2004). Our study highlights four discretionary narratives around human, digital, customer and environmental capital. In this way, it contributes to a better understanding of accounting narratives – in particular, regarding contemporary sources of both value creation and uncertainties, namely digital and environmental capital. Considered as vital assets to CEOs, these discretionary accounting narratives may provide incremental information for corporate report users. This work contributes to the current international discussions on intellectual capital narratives by focusing on discretionary accounting narratives. It seeks to provide guidelines concerning future standards in the current stage of intellectual capital research.

This paper has four sections. We start with a literature review on intellectual capital, highlighting the current debates, and we then account for the CEOs' potential perspective in that matter. In the second section, we explain the methodology used to address our research question. The third section presents our main findings, and the final section covers a discussion of those findings.

## 2. Literature review

Over the past two decades, firms have undergone radical changes that have substantially altered the nature of value creation. Some authors talk about a third industrial revolution (Rifkin, 2011) or a post-industrial economy (Cohen, 2006), while others speak of the knowledge-based economy (David and Foray, 2003; von Krogh *et al.*, 2000). All agree that a convergence of seemingly irreversible forces means that intangibles account for a growing share of the value created. In this context, intellectual capital research has gained momentum.

### *2.1 On the relevance and necessity of information on intellectual capital in discretionary accounting disclosure*

Changing business models have enabled the invisible to overtake the visible. The literature on intangible capital naturally reflects this orientation towards intangible capital in the broadest sense, as defined by Lev (2001, p. 5), and the same term covers not only intangible and knowledge assets but also intellectual capital, which is the term we use in this paper. The authors who sought to track changes in intangible capital found three clearly distinct stages (Dumay and Garanina, 2013; Guthrie *et al.*, 2012; Petty and Guthrie, 2000). In the first stage, which started in the early 1980s and continued into the early 1990s, researchers were interested in the advent of intangible capital and its value for the firm ("why, what and where") (Petty and Guthrie, 2000, p. 162). This first wave of research resulted in a growing awareness of the importance of intangible capital. Its ability to create value means that it should be possible to measure and report it in the financial statements ("intellectual capital is something significant and should be measured and reported") (Petty and Guthrie, 2000, p. 162). In the second stage, which lasted until 2005, the debate focused on the problem of measuring and managing intangible capital ("How") (Petty and Guthrie, 2000, p. 162). Once the economic importance of intangible capital was recognised, it became a matter of achieving accounting and managerial recognition. This stage coincided with the standard-setting bodies' goal of establishing relevant accounting standards, as the IASB started discussing IAS 38 "Intangible assets" in 1993, sparking five years of lively debate (Camfferman and Zeff, 2006). At the end of the second stage, a common terminology emerged to define intellectual capital. As a result, intellectual capital is separated from other intangible assets (Dumay and Garanina, 2013) and leaves us with the issue of capturing their value.

The third stage of research coincides with a more critical approach to the intellectual capital valuation models established in the second stage (Guthrie *et al.*, 2012). Intellectual capital research is at a crossroads (Chatzkel, 2004; Marr and Chatzkel, 2004). However, because of the multitude of models on offer, often without any empirical verification (Marr *et al.*, 2003, p. 456), this research runs the risk of losing credibility.

Even though our approach is different from that of researchers seeking to propose and test a valuation model from the managerial viewpoint, our research, which deals with an accounting matter, is still part of this third stage of intellectual capital research. Placing our research within the context of international projects (EFRAG, 2018; FRC, 2019; IASB, 2017, 2018), improving the disclosure of intellectual capital is consistent with the maturity that seems to have been achieved for standards regarding intangible assets. Relevant information about intellectual capital components vital to business models shall now be provided by discretionary accounting disclosure.

In its guidance on drafting a strategic report, FRC (2019) encourages entities to "include information relating to sources of value that have not been recognised in the financial statements (...) as these are relevant for an understanding of an entity's development, performance, position or future prospects". The same idea is shared by IASB, which, in November 2017, added a project to its agenda in order to update the IFRS Practice Statement 1 "Management Commentary" and with the goal of incorporating forward-looking information since long-term value creation is not recognised in the financial statements. According to the IASB chairman (2017), "the Management Commentary is a good platform for companies to describe and explain the intangibles that are vital to their business model. The capital markets need information on how intangible resources are being managed in the context of a company's strategy" [2]. With the "better information on intangibles" project, EFRAG's aim (2018) is to "develop alternatives to provide more relevant information on intangibles in financial reporting". According to them, a preliminary step involves describing and categorising relevant intellectual capital elements while highlighting future benefits and possible uncertainties.

### *2.2 Describing and categorising relevant intellectual capital elements*

Intellectual capital (IC) encompasses a wide variety of assets, as can be seen in the variety of classification currently used in the literature (Martin de Castro *et al.*, 2011). The most frequently used classifications breaks down IC into human, structural and relational capital (Bontis, 1998; Martinez-Torres, 2006; Murthy and Mouritsen, 2011; Reed *et al.*, 2006; Sveiby, 1997; Tayles *et al.*, 2007). Human capital covers employees' tacit or implicit knowledge, their talent, experience, know-how, behaviour and skills. In simple terms, human capital refers to everything that employees take away from the firm when they leave at the end of the day. Structural capital includes organisational routines, procedures, methods, databases, information systems, technology, research and development. It can be seen as the firm's skeleton because it provides the architecture for the working methods and the knowledge required by the firm's business model. Relational capital includes the firm's relationships with its customers and other key stakeholders. A specific, customer-centric conception of this capital lies at the heart of Kaplan and Norton's (1992) Balanced Scorecard and the Skandia Monitor (Edvinsson, 1997). Another firm-centric relation capital conception encompasses the firm's reputation, customer loyalty, brand and brand image (Brooking, 1996). Most of these classifications date back to the end of the 1990s which raises questions since the value creation models of companies have significantly changed ever since (EFRAG, 2018; FRC, 2019; IASB, 2017, 2018). Moreover, they give little consideration to firms' practices because they are either conceptual (Brooking, 1996; Edvinsson, 1997; Mouritsen, 1995; Roos and Roos, 1997; Sveiby, 1997) or instrumental (Kaplan and Norton, 1992, 2001; Lev, 2001; OECD, 2008, 2013).

*2.3 Integrated reporting as a step towards a better consideration of intellectual capital*

At the heart of the integrated reporting (IR) conceptual framework (IIRC, 2013), is the notion that companies should expand their reporting to include all the resources they use as inputs to their business activities (Menicucci, 2018). Indeed, the objective of an IR is to provide managers, investors and other stakeholders with information about several interrelated dimensions that affect or can be affected by organizations (de Villiers and Hsiao, 2018). These include six forms of capital (financial, manufactured, intellectual, human, social and relationship, and natural), together with the external environment, and the value creation process (IIRC, 2013). Even if issuing an IR is not mandatory in Europe, a growing number of European companies are opting for it (Rinaldi *et al.*, 2018). Moreover, several European institutions such as the Autorité des Marchés Financiers (AMF) are in favour of replacing the annual report with the integrated report. According to recent research, the most mentioned capital in IR is financial capital, followed by human and natural capital (Gibassier *et al.*, 2019).

While the integrated report is undeniably a step forward towards a better recognition of the value created by intellectual capital, investors stress as well the importance of discursive information to understand the value creation process stemming from intangibles (Castilla-Polo and Gallardo-Vazquez, 2016; Mouritsen, 2003). We assume with Brennan and Merkle-Davies (2013) that discretionary accountings narrative bring incremental information to facilitate better decision-making by investors or other corporate report users. Among discretionary accounting narratives, the CEO letters to shareholders that introduce the management commentary are of special interest.

*2.4 Why CEOs communication can be considered as a source of information on intellectual capital*

CEO letters are considered influential in investment decisions as they provide information about the business model and the firm's strategy, build credibility and confidence and present the executive team's projections for the business's development (Amernic *et al.*, 2010; Slack and Munz, 2016). This discursive part of the annual report is intended to supplement accounting data and provide a context for their interpretation (Liu *et al.*, 2014; Patelli and Pedrini, 2014). CEO letters are meant to set the tone at the top of an organisation (Amernic *et al.*, 2010), to represent the management's view on the firm achievements, and to give a flavour of the corporate culture (Aerts and Yan, 2017; Li, 2010). It is therefore recognised as a key sense-giving instrument that can manage impressions and influence perceptions (Amernic *et al.*, 2010; Merkl-Davies *et al.*, 2011). Moreover, CEO letters constitute the most widely read part of the annual report and have a wide audience, as it introduces readers to a complex and ever-growing document and can be read by a variety of stakeholders (Courtis, 2004; Li, 2008). Then, among accounting narratives, CEO letters present the greatest diversity when it comes to both the variety of the themes covered (Conaway and Wardrope, 2010) and the richness of the vocabulary (Wang *et al.*, 2012). Since, CEO letters is a much less-regulated document, they can be seen as communication tool (Yan *et al.*, 2019). This allows for relatively free expression and the use of linguistic and rhetorical processes in order to persuade potential readers. Previous research on CEO letters report, for instance, the higher frequency of fuzzy words, the extensive use of the personal pronoun "our" (Wang *et al.*, 2012), a strategic use of the weight and position of positive versus negative words (Boudt and Thewissen, 2019), an optimistic tone (Patelli and Pedrini, 2014) and rhetorical processes such as metadiscourse (Hyland, 1998) or metaphors (Bujaki and McConomy, 2012) – for a review, see Li (2010).

Last, the fact that this is a signed letter from the CEO has some importance. The work conducted by Fanelli and his colleagues (Fanelli *et al*, 2006, 2008) highlight a relationship between the charismatic vision of the CEO and the perception of investors. The letter is the

only document where the vision can be publicly expressed. Amernic and Craig (2006) state that even though letters are written with the help of professional communication agencies, CEOs are very involved with the content as the letters have their signatures and involve their individual reputation. Therefore, one can expect some sincerity in the content that goes beyond a simple communication exercise (Patelli and Pedrini, 2014). Since intellectual capital is said to be a determinant in future benefits of the firm, information related to IC should logically be found in the CEOs' letters. Therefore, we proceed to a content analysis of CEOs' letters considering that they possibly are a critical source of information on IC.

## 3. Methodology

### *3.1 Sample*

This research relies on CEOs' letters to uncover the discretionary accounting narratives on intellectual capital. The companies in our sample are subject to uniform standards regarding financial disclosure requirements. We have drawn up a sample of listed European companies that comply with IFRS. The sample was drawn from companies listed on the S&P Europe 350 index on 31 December 2016, and an effort was made to ensure diversity by geography and industry. This date also coincides with the end of the accounting period for the financial data used. The index comprises 350 companies listed on 16 European markets (S&P Dow Jones Indices, 2018). The sample excludes companies in the financial sector, such as banks, insurance companies and asset management companies, because of their special accounting standards (Jeny-Cazavan and Stolowy, 2001). In addition to financial sector companies, the sample excludes entities that are not IFRS-compliant. This was necessary in order to avoid differences in accounting representations and to ensure that CEOs' letters are produced under the same conditions. For the same reason, the sample excludes companies located outside the European Economic Area since the regulatory framework for such companies' disclosures is different. More particularly, the European Securities and Markets Authority (ESMA) had no say in their disclosure framework [3]. This may have an influence on their disclosures, including non-financial disclosures. Finally, the sample excludes companies that were removed from the index in 2017. The purpose of this exclusion is to avoid any bias that an expected exit from the index could have on the way external communication is carried out. This leads us to a final sample of 241 companies. We then extracted the English-language CEOs' letters from these 241 companies' public and freely available annual reports.

### *3.2 Computer-assisted content analysis*

We opted for a computerised lexical content analysis with R Interface for Multidimensional Text and Questionnaire Analysis (IRaMuTeQ) software. Lexical content analysis is a technique widely used to systematically analyse information sources for communication themes or patterns (Lock Lee and Guthrie, 2010). Moreover, computer-assisted lexical content analysis improves the classification of electronic content and provides a more accurate and reliable search results from textual repositories (Krippendorf, 2013). Two fundamental rules govern such an analysis. Firstly, words are reduced to their lemma. Secondly, words are considered according to their average frequency. This makes it possible to analyse the co-occurrence of words, meaning "the statistically significant association of two items (generally two words) within a defined window of the text (generally a paragraph)" (Wagner and Kronberger, 2000). The aim is to identify how words occur together in a text segment and compare them with other text segments. Co-occurrence analysis is based on the fundamental assumption that, since the meaning of words is learnt through reading and hearing them used in particular combinations, word co-occurrence is a suitable basis for representing meaning (Ocasio and Joseph, 2005).

### 3.3 Formatting the corpus

A preview of all of the texts eliminated all extraneous elements [4], leaving only the body of the text. We took special care to conserve all the punctuation, which is critical for breaking the text down into elementary context units.

IRaMuTeQ lemmatises the text using dictionaries, with no disambiguation. The lemmatisation phase of the software uses two files: lexicon and expressions. Verbs are reduced to their infinitive forms, and nouns are reduced to their singular form to ensure the successful execution of text analysis. We added 2,882 words and 293 expressions to the lexicon files, including "accounting standards", "cash performance", "carbon footprint", "sustainable development", "customer loyalty", "EBITDA", "earnings per share", "renewable energies", "financial reporting", "Internet of things", "digital platforms" or "social network". These words or expressions were too technical or business-specific to be in the software's default dictionary. The purpose of this stage was to enable the tool to recognise terms that are present in the semantic field of the research object.

## 4. Findings

### 4.1 Content analysis of CEOs' letters

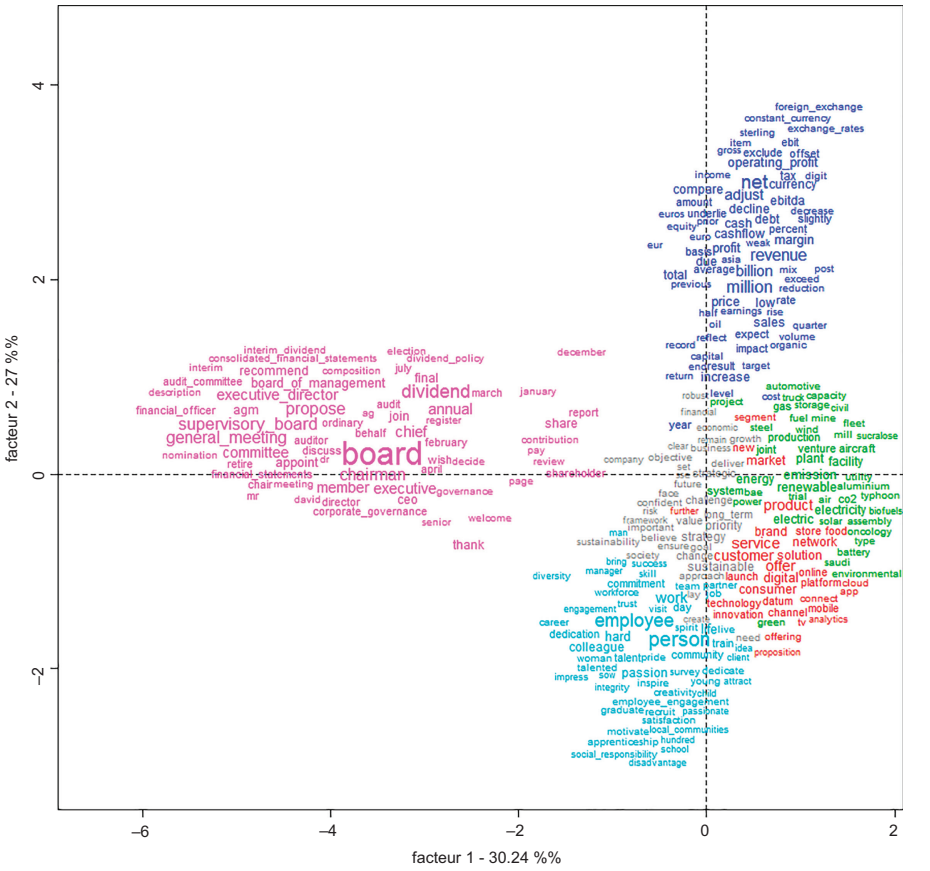
Two successive lexical content analyses were carried out. The first was done using the entire corpus with the idea of revealing the main elements of the CEOs' narratives. This first level of analysis shows that the corpus is made up of 379,441 occurrences, with 15,362 different forms, including 5,029 hapax legomena [5], which account for 41.23% of the forms and 0.11% of the occurrences. After this first ranking had been completed, we came up with a classification of six categories based on their semantic content (Figure 1).

Three of these six categories really stand out and constitute expected themes in a financial disclosure exercise. Category 5 *Financial Results* makes extensive use of the financial semantic field and, more specifically, the vocabulary involved in presenting financial results (*revenue, operating profit, margin, cash-flow, cash, EBITDA*). Category 6 *Governance* covers the narratives on governance organisation (*board, chairman, executive, CEO*) and control and audit procedures (*committee, audit, auditor, independent, etc.*), which is also to be expected for this type of disclosure. Category 2 *Strategy* involves notions of change management (*change, confident, believe*) and a future that is firmly in hand (*priority, long term, focus, approach, objective, direction*). These three major themes are part of the conventional content – a sort of compulsory routine – for CEOs' letters and are fairly uniform across all business sectors and countries.

However, Categories 1 *Relational Capital*, 3 *Environmental Capital* and 4 *Human Capital* have some more unexpected semantic registers. The common characteristic of these categories is that they all address intellectual capital, with some nuances that explain their emergence as distinct categories. In a second stage, a sub-corpus containing the elementary context units of Categories 1, 3 and 4 was extracted for a more refined analysis of the CEOs' narratives on intangible capital. A new text analysis was then conducted for finer granularity. This sub-corpus is made up of 157,397 occurrences, with 8,092 different forms, including 3,500 hapax legomena, which account for 43.25% of the forms and 2.22% of the occurrences.

### 4.2 Content analysis of the "intellectual capital" sub-corpus

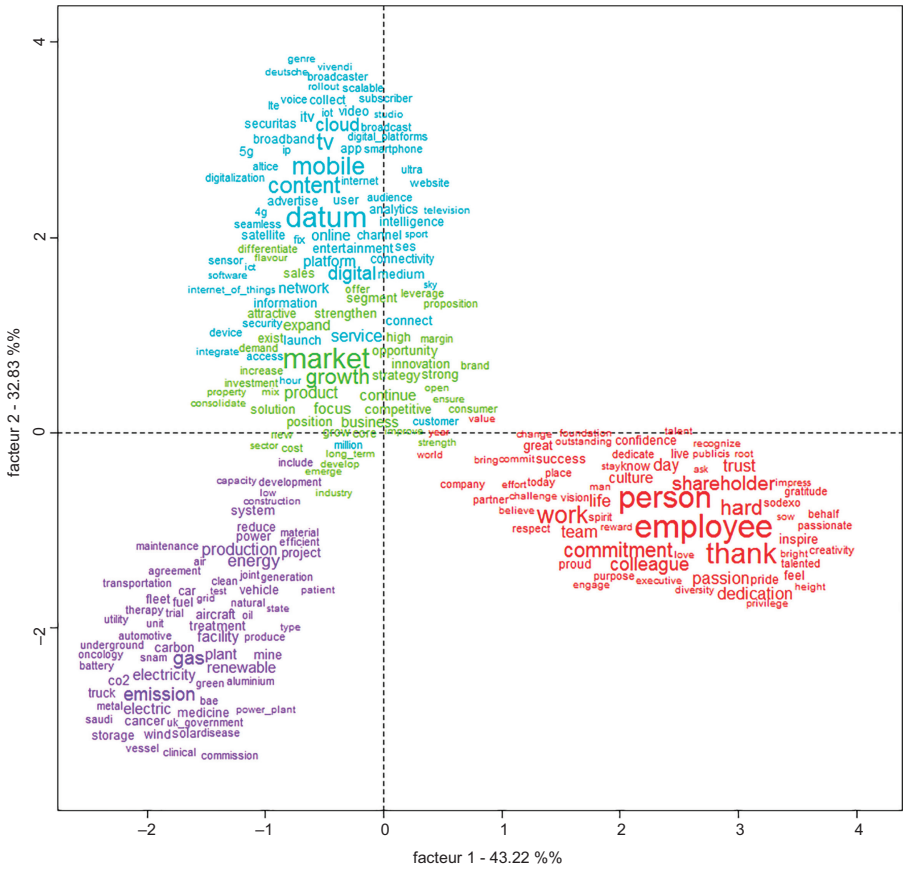
The second lexical content analysis of the sub-corpus produces a four-category classification of CEOs' presentations of intellectual capital. Two of the categories identified in the first content analysis, namely environmental capital and human capital, are still present. The main effect of the second, more granular analysis is to separate relational capital into two new categories: digital capital and customer capital (Figure 2).




| | Colour code | Name | % of forms analysed |
|---|---|---|---|
| Category 1 | Red | Relational Capital | 23.5 |
| Category 2 | Grey | Strategy | 21.3 |
| Category 3 | Green | Environmental Capital | 8.7 |
| Category 4 | Turquoise | Human Capital | 12.6 |
| Category 5 | Blue | Financial Results | 21.8 |
| Category 6 | Pink | Governance | 12.1 |

**Figure 1.**
Semantic clouds of the six categories of CEOs' narratives

Category 1 *Human Capital* still focuses on people (*employee, person, colleague*), their attitudes and their state of mind (*commitment, trust, passion, dedication, proud, confidence, inspire*). CEOs speak of culture and work, but there is little mention of the processes and investments that could be used to recruit, retain, encourage or train employees. To some extent, this category is heterogeneous and comprises companies from a wide variety of business sectors, including luxury goods, retail, fast-moving consumer goods and hospitality. In every case, however, these business sectors rely on manpower, as in the case of companies with large numbers of employees because of the nature of their business (retail, hospitality). Some companies, for example in the luxury goods sector, require highly qualified manpower. The




| | Colour code[a] | Name | % of forms analysed |
|---|---|---|---|
| Category 1 | Red | Human Capital | 26.3 |
| Category 2 | Green | Customer Capital | 30.3 |
| Category 3 | Turquoise | Digital Capital | 17.7 |
| Category 4 | Violet | Environmental Capital | 12.6 |

**Note(s)**: [a] It would have been more informative to keep the same colours for the categories that subsist, but Iramuteq assigned the colour codes and we cannot change them

**Figure 2.**
Semantic clouds of the four categories of CEOs' narratives on intellectual capital

lexical content analysis of this category shows three recurring themes in the narratives about human capital: the first theme is the link between employees' commitment – a word that occurs very frequently – and a mainly qualitative assessment of results (*result, record, contribution, objective, creating value*) and uses the vocabulary of gratitude (*thank, gratitude, acknowledge*) and trust (*trust, support, confidence*). The second theme describes and highlights employees' abilities (*talented*) by using vocabulary about collaboration (*team, staff, hard work, colleague*), as well as working conditions and rewards (*award, improvement plan, event, comfortable*). The third theme puts a teleological organisational identity into perspective. This is expressed in the form of a mission (*mission, vision, purpose, pioneer*) and

propitious conditions for a thorough understanding of consumers' expectations (*people's life, connect, consumer, desire, understand*) and technological innovation (*innovation, technology, quality*).

Category 2 *Customer Capital* includes marketing language on the firms' market orientation. The narratives recount aggressive strategies to conquer markets (*market, growth, expand, business, segment, competitive, position, strong, opportunity, sales, demand, increase*) based on working to innovate and adapt products (*product, innovation, portfolio, brand*). The content analysis of Category 2 *Customer Capital* reveals three themes in the narratives. The first theme is distinct and includes an entire vocabulary about income growth (*return, investment, performance, dividend, business, advantage, growth, improvement*) stemming from market expansion through a kind of diversification (*diversify, expansion, market share*), which may be geographical (*international, expansion*) or diversified distribution channels (*presence, store, online*). The next two themes are fairly similar. The first deals with products from the perspective of optimising the production process (*product, process, chain, productivity*) to cut costs (*reduce, achieve, optimise, efficient*), launch new products (*customer, innovative, launch*) and improve perceived quality (*quality, upgrade*). The other theme also deals with products, but from the perspective of firms' ability to anticipate changes in consumer behaviour and expectations (*anticipate, shape, consumer, increasingly, sophisticate, respond*), which is seen as a prerequisite for innovation and adapting products (*open, innovation, transition, modern*). Unsurprisingly, companies from the mass consumption sector, such as Heineken, SvenskaCellulosaAbsca (SCA), Adidas and Beiersdorf, are overrepresented in this category.

Categories 3 *Digital Capital* and 4 *Environmental Capital* can be seen as the emerging themes related to intellectual capital because they concern relatively new activities featuring high levels of risk and uncertainty and requiring financial and human investment. It is only logical, therefore, that CEOs use their letters to disclose information about these items.

Category 3 *Digital Capital* features an entire narrative on digital transformation, which is centred on collecting and using data (*data, cloud, platform, information, analytics, collect, intelligence*), the ability to use different communication channels (*mobile, TV, video, connect*) and the ability to create and disseminate content (*content, entertainment, advertise*). Companies in the communication and telecommunications sectors are overrepresented in this category, which also includes many companies in more traditional sectors that communicate about the digital experience or the use of customer data. The lexical content analysis conducted within this category revealed four themes, two of which are virtually exclusively related to the business sector. These themes are content production, highlighted in the communication and media sector, and activities related to the boom in smartphone usage, which are discussed by companies in the telecommunications sector. To the extent that these two themes are limited to a specific business sector, the findings were discarded. Two other themes that emerged are more noteworthy because they are less dependent on the business sector. The first one, digital marketing capabilities, links the ability to collect massive amounts of data (*cloud, Internet of things, infrastructure, ecosystem, manage, develop, scalable, apps, database*) to drive customer knowledge (*customer, life, mobility, data*) and product innovation (*innovation, product, service, open innovation*). The second theme, big data management, highlights analysis capabilities (*analytics, predictive, analyse*) and data security (*information, security, system, data, transparency*). The third theme appears to be an inevitable risk factor as firms undergo digital transformation.

Category 4 *Environmental Capital* stems from the environmental narratives, which often involve more environmentally friendly and energy-efficient production (*production, facility, plant, renewable, project, reduce*). This category also addresses the notion of risk management. The firms most represented in this category belong to the manufacturing and energy sectors. The content analysis of the *Environmental Capital* category reveals three

very distinct themes. The first theme is narrowly circumscribed and concerns energy transition (*environmental, transition, energy transition*) – specifically, the efforts required to reduce energy consumption (*reduce, low, energy efficiency, consumption*) and switch to renewable energy sources (*electricity, solar, renewable, alternative*). The second theme addresses the transformation of production tools and processes (*machine, technology, construction, manufacture, design, improve, efficient, monitor*) to produce more environmentally friendly products (*safe, ecological, light, recycle*) that correspond to market demand (*grow, demand, need, consume, population*). The third theme recounts the alliances forged or being forged (*project, development, joint venture, acquisition, partnership, partner, announce, unite*) to increase environmental capital rapidly as a strategic move (*strategic, stake, strengthen*) to derive business benefits (*success, business, deliver*).

In conclusion, the content analysis of the CEOs' letters to shareholders shows that the themes in their discretionary accounting narratives relate to intellectual capital. Two themes (human and customer capital) have already been identified in the literature, and the other two (digital and environmental capital) are emerging. A more granular analysis of the narratives made it possible to identify sub-themes for each of them.

## 5. Discussion: contribution and limitations

Our analysis of CEOs' discretionary narratives on intellectual capital revealed four themes, as indicated in Figure 3. At first glance, our findings confirm the steady salience of two themes, human and customer capital, which matches previous research. Interestingly, CEOs highlight two themes in their communication, namely environmental and digital capital, showing that they attach great importance to them as providers of future benefits. However, structural capital, which is systematically referred to in most taxonomies of intellectual capital, was not topical in the CEO letters. Furthermore, our results show how CEOs orchestrate the components of intellectual capital together and around areas of risk or opportunity.

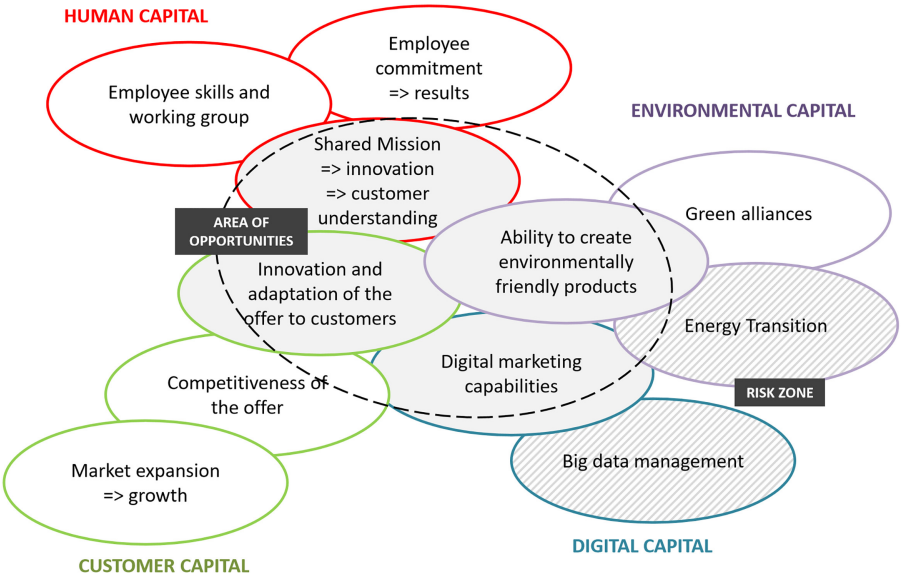



**Figure 3.**
Interrelations of intellectual capital components

*5.1 The steady salience of human capital and customer*

*Human Capital*. Our research confirms that human capital holds a central place in CEOs' narratives. It is seen as the firm's ability to create an environment that fosters the development of collective work and where employees feel committed and develop their skills to serve a mission that they all understand and share. Disclosure of something that could never be reported on the balance sheet makes a great deal of sense when we consider its contribution to value creation. Human capital is no longer just knowledge, know-how and behaviour – it also includes a commitment to values and the social environment. Hence, in an attempt to normalise accounting narratives, we propose that elements on employee satisfaction, employee advocacy and confidence in top management be reported. Indeed, any company should identify and describe the essential know-how and the resources dedicated to securing this know-how. Similarly, companies should report on the efforts undertaken to create the conditions to foster the level of collective skills.

Our findings also confirm the importance of *customer capital*. It is found in many classifications and is the most codified part of relational capital (Bontis, 1996; Edvinsson, 1997; Stewart, 1997). CEOs' communication refers not only to revenue growth and the optimisation of production processes but also to their firm's ability to satisfy consumer expectations. These themes are prevalent in CEOs' narratives, which may stem from the fact that customer capital will give their company a competitive advantage and guarantee its future. Under the circumstances, we define customer capital as a firm's ability to conquer new markets by developing competitive and innovative products based on a deep understanding of customers' expectations. Customer capital could be appreciated through the evolution of customer satisfaction and the quality of the customer experience, as well as the human and financial resources dedicated to marketing intelligence.

*5.2 Environmental capital and digital capital: two topical themes*

Results confirm that *environmental capital* can be seen as a key element of intellectual capital, which echoes the work of Claver-Cortes *et al.* (2007). Indeed, CEOs' communication addresses the pollution caused by their manufacturing processes and the related risks in a desire to reassure shareholders, together with "green" strategies that could constitute a competitive advantage. In that context, we define environmental capital as the firm's ability to transform the scarcity of natural resources into an opportunity by managing energy transition, modernising production equipment and launching the ecological products that the markets expect. Our results are mostly in line with Claver-Cortes *et al.* (2007) on cleaner manufacturing processes, green products and alliances. Yet, surprisingly and contrary to their research, we have not found any mention of human environmental capital. CEOs, in their communication, give preference to external human resources through alliances rather than developing them internally. Environmental issues in CEOs communication probably result from the pressure put on major European firms in recent years to make them accountable for their environmental impact through the Non-Financial Reporting Disclosure (NRFD) adopted in 2014 and transposed into the domestic laws of most European countries in 2017. Keeping in mind that the companies in our sample are not yet subject to the NFRD, this narrative about environmental capital may be seen as a trend that is consistent with the political concerns so vigorously expressed at COP21 in 2015. While companies are under increasing institutional pressures to report the ecological impact of their operations, this is only logical that CEOs use the possibility offered by discretionary accounting narratives to show a firm approach to the ecological transition, or even how they will take advantage of it.

The last theme, *Digital Capital*, is the result of splitting relational capital into two categories [6]. Digital capital can be defined as the firm's ability to collect, analyse and secure

massive amounts of data. The advent of digital technology is a key and widely publicised characteristic of the contemporary economy (Rifkin, 2011). Therefore, it is hardly surprising to see this theme emerge in the CEOs' discretionary narratives. Even though our findings reveal that some of these themes are specific to a given sector (communication and telecommunications, in particular), further analysis shows that the narratives about the digital transformation of an organisation (*digital marketing capabilities*) and its ability to collect large amounts of data (*big data management*) are a widespread concern. Digital capital can be reported through the volume, variety and velocity of data, as well as the level of dedicated resources, such as data scientists. As far as big data management is concerned, it could be measured by the level of resources allocated to data protection, as well as the length of time the data are kept.

Digital capital differs from previous conceptions of structural capital in that it is much more focused on data – the content – whereas structural capital addresses mainly information systems – the container. In the transformation of business models in the digital age, CEOs want to show that they understand the strategic value of data, especially customer data. In this respect, it is interesting to note that in the first classification, digital capital was de facto integrated into customer capital. So it is less the infrastructure that CEOs put forward, than their ability to generate future revenues through data mastery.

In an attempt to contribute to the normalisation of discretionary narratives on intellectual capital, we propose to include the following elements in a dedicated section in the Management Commentary (IASB) (Table 1), which would give the space to present the sources of value creation in a way that allows comparison between firms. Although there is an inflation of reporting standards, it appears from our work that some crucial elements are missing to evaluate future benefits of the firm stemming from their business model and their strategical orientations. As an example, current reporting frameworks provide information on the ecological footprint of companies but should provide as well information on the initiatives deployed to reduce the ecological footprint.

### *5.3 Reallocating structural capital*

Structural capital is absent from CEOs' discretionary narratives. This capital is defined as what is left at the office after the employees have gone home (Edvinsson, 1997). The literature breaks it down into two sub-categories (Martin de Castro *et al.*, 2011): one relating to organisational capital and the other to technological capital.

| | | |
|---|---|---|
| Human capital | (1) | Employee satisfaction |
| | (2) | Employee advocacy |
| | (3) | Confidence in top management |
| | (4) | Essential managerial resources dedicated to securing this know-how |
| | (5) | Efforts made to foster the level of collective skills |
| Customer capital | (1) | Evolution of customer satisfaction |
| | (2) | Quality of customer experience |
| | (3) | Human and financial resources dedicated to marketing intelligence |
| Environmental capital | (1) | Proportion of renewable energy in the energy mix |
| | (2) | Industrial processes moving towards less energy-intensive processes |
| | (3) | Recyclability of products |
| | (4) | Green products launched on the market |
| | (5) | Number of sponsorships, partnerships with NGOs |
| | (6) | Investment in companies with green know-how |
| Digital capital | (1) | Big data management (volume, variety and velocity) |
| | (2) | Level of dedicated resources (e.g. data scientists, IT solutions) |
| | (3) | Level of resources allocated to data protection |

**Table 1.** Proposition of discretionary accounting narratives in the management commentary

This decomposition can be used to explain this gap and find the traces of structural capital in the other categories revealed by our research. Technological capital, meaning R&D activities, patents, software and intellectual property rights more generally speaking, is truly absent from CEOs' discretionary narratives. This is hardly surprising since they are recognised in the accounts under IAS 38 on intangible assets (IAS 38, 1998, revision 2008). Therefore, there is no point in disclosing these elements in the letters to shareholders. Organisational capital components are still useful, and they are split between human capital, when they refer to a commitment to cultural values or the social climate, and digital capital, when they refer to information and telecommunication capability.

Our results show that the CEOs' narratives highlight four main intellectual components – that are human, customer, environmental and digital capitals – and we argue that it is necessary to identify them before setting standard measurement indicators.

### *5.4 CEOs discretionary accounting narratives as a complement to IR*

Our results complement as much as they question the typology of intellectual capital proposed in the integrated report. Indeed, while the contour on human capital found in CEO letters is quite similar to the one proposed in the conceptual framework of the IR, our results highlight areas of intellectual capital that differ from the integrated report framework and are worth discussing. In particular, CEOs mention a customer capital whose outlines are more precise than the social and relational capital proposed in the conceptual framework of the IR. Indeed, the relationship with customers may not be equated with the company's relationship with other stakeholders since the customer–sales–cash-flow relationship is decisive for the company's performance.

Then, the most significant differences concern environmental capital and digital capital. Indeed, digital capital as expressed by CEOs goes far beyond the IR definition which is focused on software. It encompasses the digital transformation of the company but also the ability to collect and make use of a large amount of data. Similarly, environmental capital envisioned by CEOs presents a much broader scope, as it refers to the value creation generated by cleaner manufacturing processes, green products, strategic alliances, whereas natural capital in the IR only covers renewable resources. To sum up, it seems that CEOs take a broader perspective on those two assets and consider them as highly critical to the value creation.

### *5.5 Assessing risks and opportunities*

In their discretionary narratives, CEOs highlight different intellectual capital components, such as human, environmental, digital and customer capital, in their value creation model. From a forward-looking perspective, CEOs identify as well the business opportunities that they expect to derive from IC, as well as the risks that the latter may pose to their business model (see Figure 3).

Thus, the discretionary narratives of the CEOs in their letters are in line with the recommendations of the FRC about providing shareholders with a holistic and meaningful picture of an entity's business model, position and prospects (2019) and the EFRAG's (2018) guidelines to provide more relevant information about internally generated intangibles and uncertainties that may penalise the entity's ability to access future benefits. Argued and detailed paragraphs can be privileged over indicators to account for these opportunities, uncertainties and interactions that fall within the scope of narrative accounting.

Our results show as well the importance of the interrelationships between the components of intellectual capital. CEOs highlight that value creation relies at least as much on the combination of IC components as on each one taken in isolation. That vision differs from the one proposed in the IR framework, where interactions are barely taken into consideration.

*5.6 Limitations and outlook*

In addition to the familiar semantic registers relating to strategy, finance and governance, intellectual capital is the only other subject of disclosure in the financial report. This finding confirms the relevance of our analysis of letters to shareholders. However, there are some limitations. The CEOs' letters are part of the firms' communication aimed primarily at shareholders. The written words of CEOs have considerable potency and influence since they set the tone at the top of the organisation (Craig and Amernic, 2018), although the firms' actual practices may not always fully match the CEOs' narratives.

Our research could be expanded in various ways. The research could be duplicated over time to analyse changes in CEOs' discretionary narratives about intellectual capital. It would also be helpful to test this taxonomy by repeating the research on a different sample to see whether our findings could be put to general use. For example, it would be interesting to expand the analysis to letters written in the context of other accounting standards (e.g. FASB). From another perspective, analysing less institutional narratives, such as tweets, could also help to ascertain whether/how the media influence the content. It could be useful to take a more managerial approach in which managers' opinions of the findings are sought to examine whether there are any discrepancies between CEOs' discretionary narratives and managers' perceptions. Are the perceived focal points the same ones used for disclosures? Finally, case studies of firms in which digital capital and environmental capital, which are the emerging components shown by our research, are overrepresented could lead to a more thorough understanding of this new disclosure practice.

## 6. Conclusion

Our research aims to contribute to the discussion initiated by the international standards bodies to guide financial disclosures, regulate narratives on intellectual capital (IASB, 2017; FRC, 2019; EFRAG, 2018), make them more relevant and increase the usefulness of financial statements. More specifically, we analysed such disclosures, which are deemed to be critical for investors and analysts (Castilla-Polo and Gallardo-Vazquez, 2016), by looking at the CEOs' discretionary narratives.

The findings of the lexical content analysis of 241 letters by CEOs from S&P Euro 350 companies show that intellectual capital discretionary narratives highlight four themes: human capital, digital capital, customer capital and environmental capital. Two of these themes, human and customer capital, were already present in previous classifications, but our findings showed the emergence of two topical themes: environmental and digital capital. Moreover, our results underline the interrelations between intellectual capital components put forward by CEOs in their business model and the areas of opportunities that they have identified.

Ultimately, our study, which forms part of the third stage of intellectual capital research, contributes to a better understanding of intellectual capital by putting a greater emphasis on firms' discretionary narratives. Consequently, it proposes that having a disclosure standard for these items based on the different intellectual capital categories will make it possible to tackle the new dimensions of this economic context. In this respect, it seems critical to us to frame, or even standardise, the information relating to the two emerging themes of environmental capital and digital capital. Indeed, in their communications, CEOs consider them to be major contributors to value creation but also risk factors. It seems essential that this information appears in the annual reports, in a relevant and useful form that would allow comparison between companies. Moreover, this seems perfectly feasible, as these two capitals lend themselves quite well to measurement in various aspects. This would undoubtedly increase the relevancy of financial statements, for the sake of the firm's major stakeholders, in particular the investors.

## Notes

1. An investment bank specialising in intellectual property
2. https://www.ifrs.org/news-and-events/2017/09/iasb-chairmans-speech-the-times-the-are-achangin/
3. Strictly speaking, Norway is not a member state of the European Union. However, it has observer status at the ESMA. Collaboration with Switzerland is also very close, as can be seen with the signing of a Memorandum of Understanding on the EMIR Directive on 30 November 2015 and the recognition of certain passports (e.g. *Alternative Investment Fund Managers Directive*).
4. Logos and text highlighted during the layout stage, for example.
5. Forms that only occur once in a corpus.
6. The other category is customer capital.

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