

# Exploring the term “non-financial information”: an academics’ view

Non-financial  
information

Lara Tarquinio and Stefania Carolina Posadas

*Department of Economic Studies, D’Annunzio University of Chieti–Pescara,  
Pescara, Italy*

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## Abstract

**Purpose** – With the European Union (EU) Directive 2014/95/UE, there is a growing interest in the corporate disclosure of “non-financial information” (NFI). However, no generally accepted definition of this term exists. This paper aims to reflect on the meaning and importance of the NFI definition by investigating how this term is defined in the literature and by exploring scholars’ cognitive perceptions of its meaning.

**Design/methodology/approach** – Two different research methods were used. A systematic literature review of NFI definitions was integrated with a survey to a sample of Italian scholars working on the NFI research topic.

**Findings** – This study demonstrates that the meaning of NFI is still ambiguous and multifaceted as neither a common understanding nor a single and generally accepted definition of the term exists. As the advent of the EU directive, this term has often referred to information about society and the environment, though most academics define and understand NFI differently, as corporate social responsibility (CSR) issues, intellectual capital information and information that are external to financial statements. These definitions pave the way for conceptualising NFI as a genus and its different understandings (i.e. CSR, ESG information, etc.) as species. Therefore, what constitutes NFI is open to interpretations.

**Research limitations/implications** – This paper contributes to enriching the literature on the meaning of NFI and providing further insights into explaining the heterogeneity of the NFI definition.

**Practical implications** – This paper provides researchers, practitioners and regulators with some novel insights into the meaning and understanding of NFI. It provides regulators and standard setters with knowledge for building a commonly accepted definition of NFI. Meanwhile, policymakers, regulators, practitioners and academics can contribute to establishing a definition by following three approaches: regulative, open and adaptive. This can help to avoid the risk of an information gap among stakeholder expectations, regulator requests and NFI reporting in practice.

**Originality/value** – The literature focussing on the meaning of NFI is still scarce. This study contributes to extending the knowledge of how the term NFI is defined and understood by academics.

**Keywords** Literature review, Definition, Academics, Corporate reporting, Non-financial information

**Paper type** Research paper

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## 1. Introduction

Interest in the corporate disclosure of “non-financial information (NFI)” has gradually grown since the early 1990s. NFI is considered by stakeholders (shareholders, institutional investors, customers, etc.) relevant to evaluating the firm’s long-term ability to survive and succeed (Shevlin, 1996; Robb *et al.*, 2001; Flöstrand and Ström, 2006; Arvidsson, 2011). Yet, the term non-financial information refers to additional accounts by organisations that are usually voluntary (Robb *et al.*, 2001). The growing adoption of voluntary corporate accounts can be seen as an expression of the symbiotic transformation of conventional accounting, “which has focussed upon ways of extending current practices and/or deriving new forms of reporting and accounting” (Gray *et al.*, 2014, p. 260). The aim of this accounting transformation is to detect and report information (of a non-financial nature) that is useful “to identifying sustainability risks and increasing investor and consumer trust” (European Union, 2014, p. 2). As a result, academics, practitioners, standard setters and other organisations [e.g. global reporting initiative (GRI), International Integrated Reporting Council (IIRC), Task Force on Climate-related Financial Disclosure (TFCD)] have shown a great interest in disclosing this information in both voluntary and mandatory corporate reports over the last decade.

The different terms used to refer to these reports often reflect the main aspects that corporate reports focus on (e.g. environment), but they are more commonly used interchangeably (Stolowy and Paugam, 2018). Nowadays, there are many frameworks, standards and guidelines (GRI, IIRC, Sustainability Accounting Standards Board, etc.) that are generally used for producing NFI reports and establishing the content of these reports. However, they do not propose any definition of NFI. Therefore, many terms have been used to identify the reports that disclose NFI (e.g. sustainability reporting, environmental reporting, intellectual capital reporting and integrated reporting). In this study, these different types of reporting will be considered as streams of NFI reporting.

Recently, the European Union (EU) highlighted the importance of greater transparency by companies regarding both their financial and non-financial performance. The EU issued the EU-directive 2014/95/EU (EU, 2014), which requires EU member states to mandate non-financial disclosures for large public interest entities (PIEs). The directive refers to NFI and proposes some examples of it but does not define what NFI is. However, the EU Commission staff states that “NFI is generally seen as environmental, social and governance (ESG) information” (EU, 2013, p. 2), thus identifying some “ingredients” that are generally combined to shape the meaning of NFI. Despite the recent popularity of the terms NFI and NFI reporting, there is not a commonly accepted definition (Eccles *et al.*, 2011; Erkens *et al.*, 2015; Haller *et al.*, 2017). Thus, the interpretation of this term has been left to preparers and various users of NFI.

This interpretation may be influenced by different kinds of knowledge, competencies, and the professional and social backgrounds of people. Yet, concepts and their common understanding play an important role in academic research and are also relevant for companies and practitioners (Bort and Schiller-Merkens, 2011). A shared vocabulary is helpful to ensure a rigorous and robust development of a shared understanding (Tangen, 2005). Similarly, a clear and shared definition of NFI can contribute to shaping a common ground for understanding and producing corporate disclosures. This is particularly relevant in the case of mandatory reporting of NFI due to the serious and economic consequences for companies that derive from the failure of complying with the law.

The lack of common understanding of the NFI can produce confusion, opacity (in contrast with the transparency requested by the EU directive), a growing fragmentation in people’s understanding, and low comparability of NFI reporting. For instance, Tangen (2005, p. 43) highlights that “definitions are necessary to reduce confusion” that may lead to opportunistic behaviours. Kirk (2006, p. 207) underlined that when a term has “different

meanings for different participants”, it may produce an expectation gap – a difference among stakeholders’ expectations, regulator requests and NFI reporting in practice. A clear definition of a concept is even more important when there are legal and economic consequences. Indeed, Sheehy (2015, p. 633) underlines that “advances in both law and economics require a definition by which legal and economic decisions can be made, articulated and defended”. Therefore, in the context of the EU directive, there is a need to explore the understanding of the term NFI and contribute to shaping a generally accepted definition.

Despite the increasing number of publications on NFI, and the importance of clarifying the definition of NFI, the systematic inquiries of the NFI definition are still scarce. Erkens *et al.* (2015) conducted a bibliometric analysis of academic papers on NFI. The authors conclude that many studies on NFI do not propose a formal definition but instead refer to some underlying concepts of NFI (Erkens *et al.*, 2015). Similarly, by using semantic theory and a questionnaire survey, Haller *et al.* (2017) confirm that the term NFI lacks a common meaning and understanding. Therefore, this study contributes to enriching this literature by examining the meaning of the NFI in literature and exploring scholars’ cognitive perceptions.

The study relies on a systematic literature review to examine the definitions and main topics underpinning the term NFI. To increase the validity of the study, the triangulation of information sources and collection methods was undertaken (Patton, 2002; Gioia *et al.*, 2012; De Villiers *et al.*, 2019). Therefore, to improve the consistency of our results and to further explore scholars’ understanding of NFI term, we used a questionnaire survey. The questionnaire survey aims to analyse the cognitive perceptions of scholars who have research expertise in the NFI and reporting topic. Thus, by combining different research methods, we aim to support the reliability of the results and to reduce “the risk of observations reflecting some unique method artefact” (Modell, 2005, p. 233).

The research aims to provide answers to the three research questions, which refer to the definition of the term “NFI”, the main topics it covers, and the meaning of this term to the scholars.

The results of this research demonstrate that the meaning of NFI is still ambiguous and multifaceted, as neither a common understanding nor a single and generally accepted definition of the term exists. As the advent of the EU directive, this term has often referred to information about the society and the environment, though most academics define and understand NFI differently as corporate social responsibility (CSR) issues, intellectual capital information, and information that are external to financial statements. These definitions pave the way for conceptualising NFI as a *genus* and its different understandings (i.e. CSR, ESG information, etc.) as species. Therefore, what constitutes NFI is open to interpretations. To create a common meaning of NFI, the following three approaches could be used: regulative, open and adaptive.

This research provides researchers, practitioners and regulators with some novel insights into how the meaning NFI is shaped, constructed and understood. This study contributes to extending the knowledge of how the term NFI is defined and perceived in academic literature and the scholars’ perceptions. It provides regulators and standard setters with a foundation for building a commonly accepted definition of NFI. This can help to avoid the risk of an information gap among stakeholder expectations, regulator requests and NFI reporting in practice.

The remainder of this paper proceeds as follows. Section 2 describes the research method. Section 3 presents the findings. Section 4 discusses and concludes the study by providing some suggestions for future research.

## 2. Methodology

To investigate how the concept of NFI is used in peer-reviewed academic journals, we performed a systematic literature review. This research method allowed us to locate

“existing studies, select and evaluate contributions, analyse and synthesise data and report the evidence” (Denyer and Tranfield, 2009, p. 671) by adopting a transparent, comprehensive, reproducible and verifiable process. A systematic review includes both a bibliographical analysis and a descriptive and thematic analysis (Tranfield *et al.*, 2003). This literature review was performed using the steps proposed by Kitchenham *et al.* (2009) and Vázquez-Carrasco and López-Pérez (2013), which are shown below:

- Define the research question(s) to be addressed.
- Carry out the search in a set of bibliographic databases using predefined keywords.
- Include the keywords in the search fields (title, abstract or keywords).
- Analyse each selected article to shed light on the most relevant aspects related to the NFI concept.

The following three research questions were identified:

- RQ1. How is the term “NFI” defined in literature?
- RQ2. What are the main topics grounding on the definition and understanding of “NFI” in the literature?
- RQ3. What does the term “NFI” mean to the scholars working on the NFI research topic?

To answer the first research question, the search was carried out in Scopus and ISI Web of Science databases because they ensure extensive coverage of global scientific production and include the most important high-ranked journals. This review covered the period from 1990 to 2018 and included only the articles published in English, Italian and Spanish in peer-reviewed academic journals. The extraction was performed at the date of 22 December 2018.

To search the articles, the following keywords were entered into the search fields (title, abstract or keywords): “NFI”, “non-financial disclosure” and “non-financial reporting”. The same keywords were also used without dashes (Step 3). The search results are shown in Table 1.

To analyse the term “NFI”, we used the QSR NVivo 11 software, which is a useful tool for conducting literature reviews (Di Gregorio, 2000; Beekhuizen, 2007; Sharma and Gupta, 2015). The 351 articles collected through the search were imported into the software, and then the text search function was used to search for the word “non-financial” and to collect all the pieces of text referencing to “NFI” in the articles. Thus, the sentences including statements such as “NFI refers to [...]”, “NFI is [...]”, “NFI is associated with [...]”, “NFI is defined as [...]” were collected.

We selected 28 different definitions of NFI from the same number of articles. These articles were analysed by using three functions of *bibliometrix* R-package: *annual scientific production*, *country scientific production* and *most relevant sources*. This tool provides a set of functions for the science mapping analysis of scientific literature by supporting data collection, data analysis and data visualisation (Aria and Cuccurullo, 2017). The BibTex files of these 28 articles were exported from Scopus and WOS and imported into *bibliometrix*.

**Table 1.**  
Number of articles  
found and selected  
per database

Description	Scopus	Web of Science	Total
Articles found	297	201	498
Articles selected after the overlap check among databases	297	54	351

The second research question was addressed by performing a content analysis of the 28 definitions identified. Specifically, a coding process was carried out to extract the main topics underlying the understanding of the term NFI in literature. The coding process through NVivo consisted in categorising information through the assignment of different attributes that are defined in a preliminary “coding scheme” (Beekhuyzen, 2007; La Torre *et al.*, 2018). As there was not a pre-established coding scheme for NFI, we created a new one through an emergent coding of the definitions. This technique differs from “a priori coding” because codes are not previously defined and then applied to the text. Instead, they are drawn from the information to be coded (Stemler, 2001; Dahlsrud, 2008; Blair, 2015). By following Stemler (2001), the two co-authors independently examined the 28 definitions and found that different definitions contain references to the same aspects of NFI. Based on these similarities, the definitions referring to the same aspects were grouped. The co-authors compared the coding categories generated and reconciled any differences resulting in the development of the final coding framework. Seven categories were identified, which were named according to the content of the definitions: intellectual capital (IC) information, strategy, external to financial statements, CSR, business performance, non-accounting information and ESG information.

To organise the data from the analysis, the following information was noted in a spreadsheet for each article: title, author, publication year, journal, theoretical framework and definition of “NFI” identified. To ensure reliability and consistency in the data analysis, as suggested by Miles and Huberman (1994), a coding agreement was reached through the consensus of co-authors. Subsequently, one of the authors coded all data and, to check the validity of the results, a second author independently analysed half of them. After this second round of coding, the second author detected only a few discrepancies that have been re-analysed and resolved (Milne and Adler, 1999; Massaro *et al.*, 2016).

To strengthen the validity of the results of the systematic literature review and to corroborate our findings, data triangulation (Patton, 2002; Gioia *et al.*, 2012; De Villiers *et al.*, 2019) was undertaken through a questionnaire survey. Thereby, it was possible to assess the degree of convergence or divergence between the results obtained using the two different research methods (literature review and questionnaire survey) (Brewer and Hunter, 1989).

The questionnaire survey aimed at answering our third research question by exploring the scholar’s perception of the term NFI. A questionnaire survey was chosen to ask questions considering the results of our literature review and according to a fixed interviewing schedule. By asking the questions in the same way to different scholars reduce the influence of the interviewer (Corbetta, 2011), bringing out a “real-time” perception of NFI by those scholars “experiencing the phenomenon of theoretical interest” (Gioia *et al.*, 2012, p. 19). We decided to administer questionnaires to a sample of Italian scholars whose research topics are about NFI and reporting, thus assuming that their specific competencies and experiences could be useful to capture the meaning of the term NFI better. The decision to focus on Italian scholars can be explained in two different ways. Firstly, considering that the topic of NFI reporting (seen as social reporting) has been the subject of in-depth studies of leading Italian scholars (Contrafatto and Rusconi, 2005) leading to state that the principles underlying these issues can derive from “Italian business philosophy” (Leopizzi *et al.*, 2016, p. 461). Secondly, from the observation that, till now, other studies on the NFI (Erkens *et al.*, 2015; Haller *et al.*, 2017) have not engaged Italian scholars in the debate on the meaning of NFI.

The questionnaire was designed to investigate the concept of the term NFI by asking respondents to provide their own definition of NFI. Through the questionnaire, the respondents were asked to put of importance to the topics that were identified through the

literature review. Thus, they provided a list of topics that were more related to their perceived concept of the NFI term.

As the objective was to capture the immediate perception of respondents, the questionnaire was distributed in person or via skype, thus ensuring participant anonymity and data confidentiality. The questionnaire was distributed and also collected during a meeting of the “Gruppo di Studio per il Bilancio Sociale”, which is one of the most important Italian associations aimed at developing and promoting scientific research on social reports and corporate responsibility management. Other scholars were contacted via Skype. In summary, 22 questionnaires were collected.

To analyse the data from the questionnaire survey, a coding process was undertaken. A content analysis of the responses was carried out by adopting the coding scheme previously developed. Consequently, the definitions of NFI given by the respondents were grouped into themes (reflecting the seven categories of NFI that emerged from the systematic literature review). Besides, the participants’ responses were matched to the definitions of NFI identified in literature. To ensure validity, the coding scheme was applied by the two co-authors to get a consensus on how the responses are categorised.

### 3. Analysis and results

#### 3.1 The term “non-financial information” in the literature: a descriptive overview

After having identified the 28 definitions of “NFI” in the literature, the *bibliometrix* R-package was used for an overview of the 28 publications containing these definitions. This R-tool offers multiple functions. Specifically, in our analysis, we focussed on the following functions:

- *Country scientific production*, to shed light on which countries have had the authors most active in defining the term “NFI”;
- *Annual scientific production*, to investigate how the definitions of “NFI” have evolved over time; and
- *Most relevant sources*, to identify the journals in which the articles have been published.

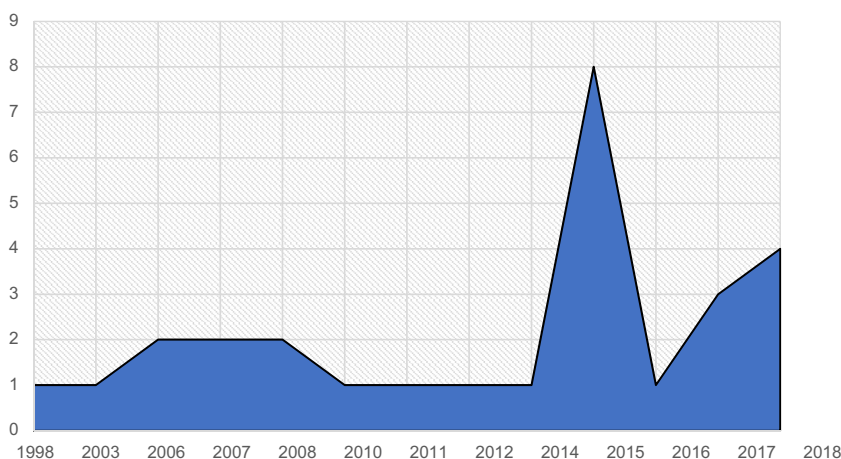
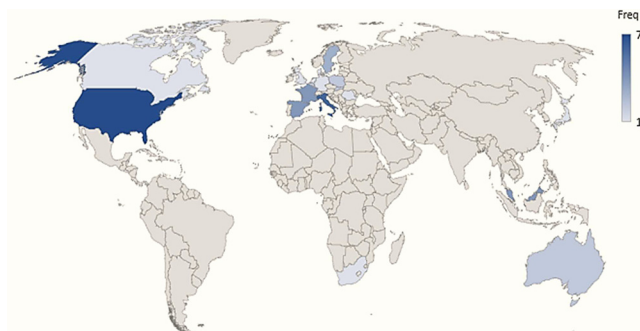
*Bibliometrix* analyses country scientific production in relation to the institutions of the authors of the articles. [Figure 1](#) illustrates that, over the whole period considered, the USA has the most active researchers with seven authors providing a definition of NFI. The second most active country is Italy with six authors, followed by France, Spain and Malaysia, each with four authors.

The yearly distribution of the studies shows how this emerging research topic has developed over time. [Figure 2](#) shows that there is a trend from 1998 to 2018, while there is no article from 1990 to 1997. The number of publications varies from one per year (in 1998, 2003, 2010, 2011, 2012, 2014 and 2016) to 8 articles in 2015. There is not an ever-increasing trend, but the peak in 2015 suggests that the EU directive on “NFI” had an important role in fostering the academics’ interest in this topic. A contribution to an increased attention towards NFI and reporting has also come from the impulse given by United Nations to the sustainable development agenda whose heart is the sustainable development goals (SDGs) ([United Nations General Assembly, 2015](#)). SDGs have contributed to attracting the attention of scholars on aspects related to the management and disclosure of NFI such as, for example, climate change, human rights and biodiversity ([Bebbington and Unerman, 2018](#)).

It is interesting to highlight that, focussing on 2015, the US researchers are not the most active ones; in fact, about 75% of the authors belong to European institutions. [Figure 2](#)



**Figure 1.**  
Scientific production  
per authors' country



**Figure 2.**  
Scientific production  
per year (1998-2018)

shows that, after a sharp decline in the number of publications in 2016, in the last two years, the interest in NFI rose again, with three definitions in 2017 and four in 2018.

The articles were then analysed in relation to the journals in which they were published. The articles containing the definitions of NFI were published in 26 different scientific journals [1]. Most of them were in *Sustainability* and *Sustainability Accounting, Management and Policy Journal*, containing two definitions each. In the remaining journals, we only found one definition for each journal. According to the Scopus classification of journals, most of the definitions are in journals belonging to the area of *Business Management and Accounting*.

### 3.2 Definition and categories of “non-financial information”

The result of the literature search suggests that the term “NFI” is frequently used in the literature. However, although the articles use this term in their title, abstracts or keywords, only 28 articles out of 351 define NFI. Some of these studies are broader in scope and do not strictly require an explicit definition of the term.

Table 2 reveals that the meaning of “NFI” is still ambiguous, as neither a common understanding nor a single and generally accepted definition of the term exists. For

**Table 2.**  
Definitions of “NFI”  
in the literature

Authors and year	Definition of NFI
Wurzburg (1998)	“... information on ‘intellectual capital’ of companies ...”
Vanstraelen <i>et al.</i> (2003)	“... information items were grouped into six categories, namely, the environment around the company, strategy and management, company trends, the environment of the company, production and customers”
Flöstrand and Ström (2006)	“The term NFI in this study refers to qualitative information outside of the four financial statements and footnotes”
Perrini (2006)	“... NFI, such as that about the quality of risk management, corporate governance, strategic direction, quality of management and social and environmental performance will help stakeholders better understand a company’s overall performance, business strategy and growth perspective”
Orens and Lybaert (2007)	“... NFI is defined as all information disclosed outside the financial statements of a company ...”
Lim <i>et al.</i> (2007)	“... reveals information about the company’s social accountability”
Cohen <i>et al.</i> (2008)	“... NFI is defined as information that is not directly derived from financial statements, such as general economic conditions, technological changes in the client’s industry and new products from competitors”
Polo and Vázquez (2008)	“The term ‘non-financial’ does not include traditional information collected in principal financial statements, but rather it is incorporated independently into the accounting”
Serrano-Cinca <i>et al.</i> (2010)	“NFI has been used to identify several intangible constructs ...”
Arvidsson (2011)	“... NFI related to intangible assets”
Cohen <i>et al.</i> (2012)	“... nonfinancial information offers a tool for measuring the firm value arising from intangibles and future cash flows that is missing from traditional financial reports”
Abidin <i>et al.</i> (2014)	“... NFI such as information on social responsibility ...”
Farooq (2015)	“... NFI, such as that related to environmental, social, and governance (ESG) ...”
Ahmed Haji (2015)	“... NFI of a firm, including IC information ...”
Camilleri (2015)	“... disclosure of NFI should shed light on the corporate businesses’ social and environmentally policies and practices”
Holt <i>et al.</i> (2015)	“... NFI, that is, qualitative information that is not included in the financial statements but has been identified as being important for investment decision-making ...”
Mio <i>et al.</i> (2015)	“... NFI refers specifically to sustainability-related information”
Szabó and Sørensen (2015)	“... NFI, otherwise known as corporate social responsibility (CSR) information”
Erkens <i>et al.</i> (2015)	“We define NFI as disclosures provided to outsiders of the organization on dimensions of performance other than the traditional assessment of financial performance from the shareholders and debt-holders’ viewpoint. Our definition includes, but is not limited to, items related to social and environmental accounting, CSR and intellectual capital disclosed outside the financial statements”
Bonsón and Bednárová (2015)	“... NFI such as those related to environmental or social issues”

(continued)



Table 2.

Authors and year	Definition of NFI
Křištofik <i>et al.</i> (2016)	"... information required to understand the development, results and position of the organization and the impact of its operations in respect of environmental and social issues, respect for human rights, counteracting bribery and corruption"
Krasodomska and Cho (2017)	"... NFI related to corporate social responsibility (CSR) issues"
Matuszak and Róžańska (2017)	"... voluntary disclosures regarding CSR issues"
Haller <i>et al.</i> (2017)	"NFI comprises all quantitative and qualitative data on the policy pursued, the business operations, and the results of this policy in terms of output or outcome, without a direct link with a financial registration system"
Chong <i>et al.</i> (2018)	"... information on company's performance and risk"
Ochi (2018)	"... NFI such as ESG information ..."
Manes-Rossi <i>et al.</i> (2018)	"NFI refers to a broad range of themes and issues such as environmental and social policies and impacts (e.g. resource and energy use, greenhouse gas emissions, pollution, biodiversity, climate change, waste treatment, health and safety of employees, gender equality, education) and is pivotal to improve accountability and transparency towards stakeholders"
La Torre <i>et al.</i> (2018)	"The term 'NFI' is ambiguous because it specifically refers to disclosing information about society and the environment"

example, Wurzburg (1998) defines NFI as information on companies' intellectual capital. Similarly, Arvidsson (2011) focusses on intangible assets, while Cohen *et al.* (2012) emphasise the aim of measuring intangibles. Both Perrini (2006) and Chong *et al.* (2018) see NFI in relation to businesses' strategy and risks. Differently, Farooq (2015) and Ochi (2018) positions NFI into the ESG domain, while Krasodomska and Cho (2017) define NFI as information on CSR issues.

It is possible to identify two principal streams of NFI definitions provided by literature. The majority of them refer to the type and nature of NFI, while the rest focus on where NFI is disclosed (inside vs outside financial statements). Such a plethora of definitions suggests that the meaning of NFI was anchored to the context and field in which it is used. Yet, with the advent of the EU directive, this term often refers to information about the society and the environment (La Torre *et al.*, 2018).

The process of grouping the definitions into the seven above-mentioned categories produced a coding scheme as a result of the content analysis and the emergent coding (Stemler, 2001; Dahlsrud, 2008; Blair, 2015). Table 3 shows the coding scheme, the seven categories and examples of text that relate to the categories.

Figure 3 shows the categories in which the definitions were classified. This figure was created using Pajek, which is a software for analysing and visualising networks (Batagelj and Mrvar, 1998). The *vertices* represent the categories (in blue) and the definitions (in grey), which show the authors and the year of the articles in which they appear. In relation to the categories, the size of *vertex* represents the number of definitions relating to each category. Instead, the size of the *vertex* of the definition reflects the number of categories to which the definition refers. As a result, there are only five definitions associated with two or more categories (Perrini, 2006; Cohen *et al.*, 2012; Erkens *et al.*, 2015; Křištofik *et al.*, 2016). In most of the cases, each definition is related to only one category, thus corroborating the fragmentation of the NFI definitions.

**Table 3.**  
Coding scheme and  
the seven categories  
of NFI

Categories	The definition is coded to the category if it refers to	Examples
Business performance	Company's performance (not only social or environmental performance but also overall performance)	"outcomes in terms of performance" "company's development, performance or position"
IC Information	Intellectual capital information, intangible assets	"information on intellectual capital of companies" "information including IC information" "related to intangible assets"
Strategy	Corporate strategy (not only social or environmental strategy)	"strategic direction"
External to the financial statements	Disclosure of NFI outside of financial statements	"information disclosed outside the financial statements of a company" "information that is not directly derived from financial statements"
CSR	Corporate social responsibility, accountability, company's impact	"impact of operations in respect of environmental and social issues" "disclosures regarding CSR issues"
Non-accounting information	The communication of information not expressed in financial terms	"without a direct link with a financial registration system"
ESG information	Environmental, social and/or governance information	"disclose environmental, social and governance issues" "information about society and the environment"

The definition with the highest number of associations is the one provided by [Erkens et al. \(2015\)](#), which is linked to five categories (i.e. CSR, external to the financial statements, business performance, IC information and ESG information). This result is not surprising because this study aims to document the state of the art of the research on NFI and contributes to providing a more consistent and comprehensive definition of "NFI". The seven dimensions of NFI confirm the lack of a common meaning of the term and provides an understanding of the issues and themes lying in the use of the term NFI. Several conceptual and empirical studies have shown that national, cultural, socio-economic and political factors can influence the perception and conceptualisation of corporate non-financial performance, CSR, etc. ([Nobes and Parker, 2000](#); [Ringov and Zolo, 2007](#); [Matten and Moon, 2008](#); [Ioannou and Serafeim, 2012](#)). Based on our analysis of the NFI definitions, there is no evidence showing country-specific similarities in the definition of NFI.

*3.2.1 Diffusion of the definitions.* To understand how the topics in each category are used in the literature, frequency counts were used ([Dahlsrud, 2008](#)). Frequency counts were obtained by searching for each definition in Google Scholar. The method proposed by [Dahlsrud \(2008\)](#) consists of calculating a dimension score for each category by summing up the frequency counts of the definitions belonging to a single category. Formally:

$$DS_i = \sum_{j=1}^x F_{Def_{ji}} \tag{1}$$

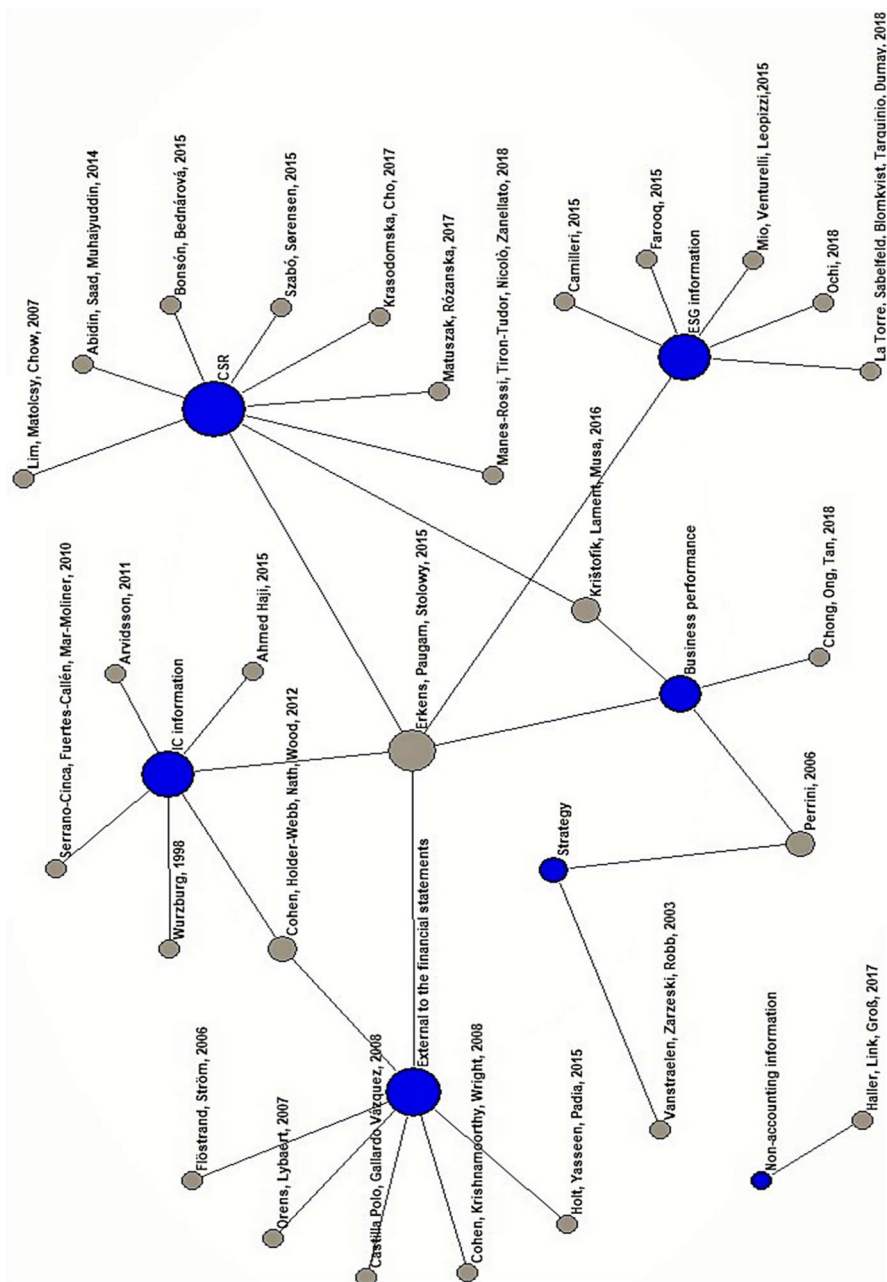


Figure 3.  
Categorization of  
definitions

where  
 $DS_i$  = dimension score for category  $i$ ;  
 $F_{Def_{ji}}$  = frequency count for definition  $j$  related to category  $i$ ; and  
 $x$  = total number of definitions related to category  $i$ .

The next step is to calculate a dimension ratio to analyse the usage of each category by dividing the dimension score by the sum of the frequency counts for the total number of definitions, as shown in the [equation \(2\)](#):

$$DR_i = \frac{DS_i}{\sum_{k=1}^y F_{Def_k}} \times 100\% \tag{2}$$

where  
 $DR_i$  = dimension ratio for category  $i$ ;  
 $DS_i$  = dimension score for category  $i$ ;  
 $F_{Def_k}$  = frequency count for definition  $k$ ; and  
 $y$  = total number of definitions

The dimension scores and dimension ratios are shown in [Table 4](#).

The CSR category has the highest dimension ratio. There is a 27.3% probability of the CSR category being included in a random definition, while, for the other categories, the probability is between 1.5% and 21.2%. Therefore, the CSR category contributes most to understanding how NFI is defined. According to [Perrini \(2005, p. 611\)](#), NFI “has grown up together with the evolution of the concept of CSR, relying on the assumption that the former can be derived from the latter, thus meaning ‘social responsibility’ in the sense that the company is held accountable for its actions”. The definitions in the CSR category suggest that “NFI” refers to a company’s policies, activities and impacts with respect to environmental and social issues, thus revealing information about corporate accountability ([Lim et al., 2007](#); [Křištofik et al., 2016](#); [Manes-Rossi et al., 2018](#)). NFI has increasingly been seen as an important tool for assessing the value of companies and their perspectives for future growth ([Krasodomska and Cho, 2017](#)). Moreover, [Křištofik et al. \(2016\)](#) claim that NFI contributes to the improvement of a CSR management system, helps to manage risks and reinforces reliability with stakeholders.

However, the CSR category is followed by the IC information category. Although the dimension ratio of this category is not significant compared to the previous case, this dimension of NFI has been acquiring an increasing interest in recent years ([Arvidsson, 2011](#); [Erkens et al., 2015](#); [Ahmed Haji, 2015](#)). Under this interpretation, “NFI” refers to the “disclosure of performance indicators that stem from intangible values of a company” ([Haller et al., 2017, p. 411](#)). NFI is believed to contribute to a more comprehensive disclosure regarding intangible assets within the areas of human, relational, organisational and environmental issues ([Arvidsson, 2011](#)). Specifically, [Arvidsson \(2011\)](#) sheds light on NFI’s

**Table 4.**  
The dimension score  
and dimension ratio  
for each category of  
NFI

Categories	Dimension score	Dimension ratio (%)
CSR	18	27.3
IC information	14	21.2
External to the financial statements	11	16.7
Business performance	9	13.6
ESG information	7	10.6
Strategy	6	9.1
Non-accounting information	1	1.5

role in enhancing the visibility of intangible assets, thereby reducing information asymmetry and market inefficiency. Therefore, it is demonstrated that IC information is also a significant component in defining NFI, which is not limited to CSR.

### 3.3 Scholars' perceptions of the meaning of non-financial information

It is demonstrated that neither a common meaning nor a shared definition of NFI emerges from the literature review. Yet, CSR and IC are the dominant topics in defining and understanding NFI. The results of the questionnaire survey confirm that there are contrasting views about the definition of NFI and the topics that are commonly related to this term. The participants' responses to the first question included about six of the seven categories of NFI identified above (i.e. CSR, business performance, information external to the financial statements, non-accounting information, ESG information and strategy). Some responses fell into more than one category. No definitions were coded into the IC information category. Moreover, no additional categories needed to be developed to supplement those that emerged from the systematic literature review. Therefore, scholars generally define the term NFI in accordance with the literature. However, while the conception of NFI as CSR information is widely used in literature, the survey demonstrates that scholars commonly associate the term NFI with the concept of non-accounting information. Table 5 shows that 72.7% of the respondents prefer to define NFI as non-accounting information, while only 13.6% define it as CSR information.

To explore the convergence or divergence between the results of the two research methods, the definitions of NFI, resulting from the survey, were matched to those identified in the literature. The findings are presented and analysed below.

*3.3.1 "Non-financial information" as corporate social responsibility information.* According to the definitions placed into the CSR category, NFI refers to a company's policies, activities and impacts to environmental and social issues (Lim *et al.*, 2007; Krištofik *et al.*, 2016; Manes-Rossi *et al.*, 2018). This conceptualisation of NFI was not commonly noted in participants' views. In fact, only a small percentage of respondents believe that NFI "relates to environmental, social and economic objectives, actions and impacts or that "it allows a correct evaluation of a company's impacts".

*3.3.2 "Non-financial information" as information concerning business performance.* This definition covers the overall company's performance and does not focus solely on the social and environmental spheres (Erkens *et al.*, 2015; Chong *et al.*, 2018). Approximately, one-third of scholars have embraced this view and argued, for example, that:

NFI refers to the disclosure of a company's performance as a whole.

Categories	Percentage of responses (%)
Non-accounting information	72.7
Business performance	31.9
ESG information	22.7
CSR	13.6
Information external to the financial statements	9.1
Strategy	9.1
IC information	0

**Note:** "In your opinion, which of the following categories is associated with the term "NFI?"

**Table 5.**  
Response to Q1

3.3.3 “Non-financial information concerns value creation”. “Non-financial information” as information external to financial statements. In this case, the focus is on where NFI is disclosed (inside vs outside financial statements) (Orens and Lybaert, 2007; Cohen *et al.*, 2008). A minority of respondents define NFI as “information not directly derived from financial statements” or “information disclosed in a separate document”.

3.3.4 “Non-financial information” as non-accounting information. NFI is associated with information that is not expressed in financial terms. Although in literature this dimension of NFI is taken into account only in the study by Haller *et al.* (2017), most of the definitions identified via the survey were coded into this category. For instance, respondents expressed the following views:

NFI is a system of information that does not necessarily derive from the accounting system.

NFI is not related to financial and economic data.

Within this category, some definitions also underline that NFI is supplementary to financial information.

3.3.5 “Non-financial information” as environmental, social and governance information. NFI is about environmental, social and governance information or, more generally, information about sustainability issues (Farooq, 2015; Mio *et al.*, 2015; La Torre *et al.*, 2018). Some respondents embrace this view and state that:

NFI concerns the analysis of social and environmental aspects related to the company’s activities.

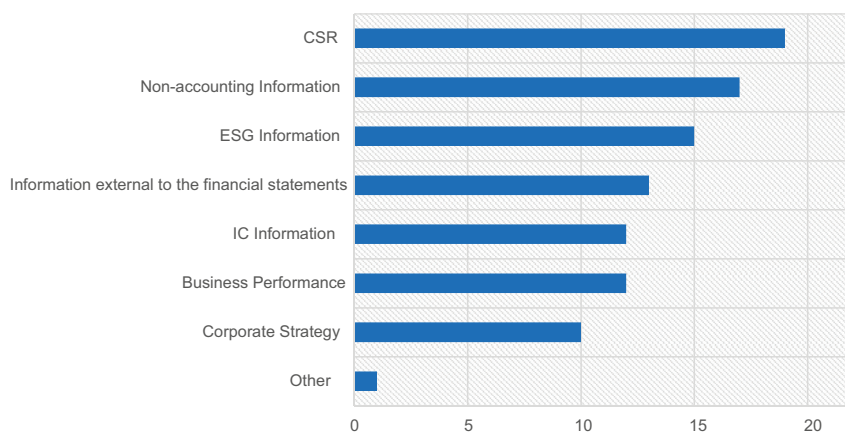
NFI is relevant information to evaluate the sustainability of corporate actions.

3.3.6 “Non-financial information” as information relating to strategy. The definitions that belong to this category state that NFI focusses on the strategic direction of a company (Vanstraelen *et al.*, 2003; Perrini, 2006). Only a few scholars define NFI as “information that shows stakeholders the mission, values and strategic lines on which a company is based”. Thus, similarly to what was found in the literature, this definition is among the least used in the survey.

The second question asked regarded selecting the topics that represented the concept of NFI more among the topics identified through the literature review. Figure 4 shows that, contrary to the responses to the first question, scholars consider the CSR as the dominant topic underpinning the understanding of NFI. Indeed, 19 out of the 22 respondents believe that CSR is one of the most related topics to the concept of NFI.

The order of topics was further analysed to investigate the scholars’ perceptions of the main components of NFI in depth. According to Figure 5, the CSR topic was placed in the first position 11 times. Therefore, the responses to the second question are consistent with the results of the literature review, thus confirming the perception of a close linkage between the concept of “NFI” and corporate social responsibility. “Non-accounting information” was also selected by a large number of respondents. However, only four of the respondents put this topic first on their list. The respondents also had the opportunity to introduce additional topics to those identified in the literature. Yet, only one respondent integrated the seven options by introducing the “Diversity and risk disclosure” topic, which was placed in the eighth position.



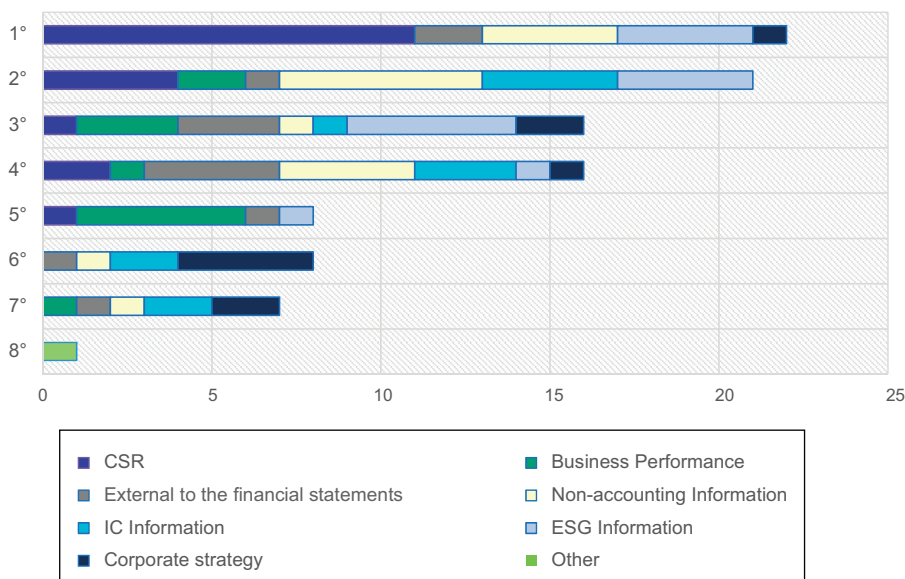


Non-financial  
information

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**Note:** “In your opinion, which of the following topics is most closely related to the concept of NFI?” (number of indications according to the topic)

**Figure 4.**  
Response to Q2  
(Part 1)



**Note:** “In your opinion, which of the following topics is most closely related to the concept of NFI?”(number of indications according to the topic and rank assigned, where 1 is the most important and 8 is the least important)

**Figure 5.**  
Response to Q2  
(Part 2)

## 4. Discussion, conclusion and implication

### 4.1 Discussion and conclusion

This paper explores the term NFI from an academic's perspective. To answer the first research question, which concerns how the term "NFI" is defined in the literature, this study reviews the literature through the content analysis of the academic articles with the support of Nvivo software and bibliometrix R-package. The analysis found 28 different definitions of NFI, which are provided mostly by US researchers and then by European researchers. The dominance of the US researchers also emerges from the study of [Erkens et al. \(2015\)](#), which shows the frequent use of data on US firms in the articles on NFI.

Many studies have highlighted the divergences in the cultural, socio-economic and political dynamics between the USA and European countries that may influence accounting and reporting approaches, corporate governance and CSR practices ([Matten and Moon, 2008](#); [Boesso and Kumar, 2007](#)). Therefore, it was expected that the definition of NFI might also be affected and shaped by national and cultural contexts. Instead, this study shows that there are no country-specific similarities in the definition of NFI. We can deduce that these differences in the definitions might be due to the lack of common legal regulation. In fact, the Directive 2014/95/EU on disclosure of NFI for large companies headquartered in the Member States, entered into force as of 2017. Legal regulation can be considered "more than merely a boundary constraint on decisions", and the law is the referent around which consensus and traditions are built ([Christensen, 2008](#), p. 459). When norms are internalised they acquire the status of taken-for-granted, and all companies recognise norms as binding ([Bebbington et al., 2012](#)). Therefore, given the absence of a shared definition of NFI, the results of our analysis suggest that the meaning of NFI is anchored to the research field in which this term is used. However, it was noted that the only common understanding regards the literal meaning of NFI, which intrinsically concerns information with non-financial nature. This phenomenon can be qualified as a form of "institutionalization of the idea" of NFI. Thus, starting from the institutionalised definition of what financial information is [Tuttle and Dillard \(2007\)](#) and the residual definition of NFI, the domain of NFI is unlimited and can extend its boundaries to future developments.

With the advent of EU Directive 2014/95/EU on NFI, there has been a growing interest in NFI. The number of publications on NFI peaked in 2015. NFI is gaining momentum across the European countries and is becoming a widespread term for European corporations. This evidence makes the definition and understanding of the term NFI even more significant in Europe, where NFI reporting has become mandatory for large entities of public interest. Because of the issue of the EU directive, there is evidence that NFI is becoming widely defined and understood as information about CSR, society and environment. However, to answer the second research question, our analysis revealed that many definitions are related to CSR issues, IC information and information external to financial statements. These definitions pave the way to consider NFI as a *genus* – linked to Aristotelian thinking – and information related to e.g. environmental, social, intellectual capital issues as *species*. NFI is considered as an umbrella term that often overlaps other concepts or is deemed to be synonymous of different terms (e.g. CSR and ESG information).

The results of the questionnaire confirm this evidence and show that there is a convergence on the main topics underpinning the term NFI that is CSR. This result is not surprising if we consider that non-financial reporting practices have matured with increased attention to the CSR issues ([Perrini, 2005](#)) and that many studies on NFI and reporting refer to CSR or environmental, social and ethical matters ([Perrini, 2006](#); [Farooq, 2015](#); [La Torre et al., 2018](#)). However, the results of the survey also show that most of the academics define NFI as "non-accounting information" – information that is not expressed in financial terms.

Therefore, scholars prefer to define NFI by using a residual definition, by explaining what the term does not mean. This confirms the scholars' awareness that NFI is a *genus* and its understanding cannot be limited to CSR, ESG or sustainability-related information. In literature, NFI has also been used to refer to intellectual capital information, strategy, business performance and risk. Thus, the overriding idea is that NFI is complementary to financial information; it may concern other topics in addition to CSR, ESG and sustainability.

#### 4.2 Practical implications

Even though the results of the study illustrated that there is a shared understanding of the basic topics underpinning the term NFI, the lack of a common definition can create confusion in corporate communication and can affect the quality and comparability of non-financial reports. Global harmonisation, which is one of the EU directives objectives, would be difficult to achieve because identifying and disclosing NFI is affected by various interpretations (La Torre *et al.*, 2018). If NFI had different meanings for different actors, there would instead be a de-harmonisation and the raising of an expectation gap. Adapting the concept of "audit and financial reporting expectation gap" (Power, 1997; McEnroe and Martens, 2001), NFI expectation gap is explained by the difference between what NFI means and is disclosed by companies and what stakeholders expect based on their understanding.

A clear definition of NFI can also positively affect the assurance of NFI. How can assurance providers be sure that NFI is completely reported when there is no precise definition? If the perimeter of NFI is not defined to determine what belongs to this category of information, assurance providers can arduously express an opinion on NFI reporting. For example, in the Italian context where the assurance of non-financial statements is mandatory, judging whether non-financial statements have been drafted with all their relevant aspects in accordance with the law can be misleading (Assirevi, 2019).

A common understanding of the principal components of the concept of NFI is still lacking. As there is not a generally accepted definition of NFI yet, what constitutes NFI is open to interpretation. Meanwhile, policymakers, regulators, practitioners and academics can contribute to establishing a definition by following three approaches: regulative, open and adaptive.

The first approach consists of the legal definition of NFI, as established by the law. Alternatively, the adoption of mandatory standards or guidelines can establish a clear definition of NFI. This regulatory approach has the advantage of reducing "semantic complications" (Haller *et al.*, 2017, p. 422). However, it might likewise reduce the flexibility that is useful in capturing business-specific non-financial aspects.

Starting from this critique, the second approach may be based on a generic definition that focusses on a few constituent aspects and is open to the integration with other components that are material for companies. Thereby, this open definition of NFI can enclose companies' core activities and capture new elements emerging from the organisations' context. For example, developing a sector-specific definition of NFI can stress the common aspects that are material for industries and companies. However, this second approach has the limitation of reducing the inter-sector comparability of information. Yet, companies can focus on identifying the topics that reflect their value creation, thus increasing the "relevance and consistency" (Directive, L330/4) of their NFI.

This study showed that academics are not yet prone to embrace a single definition of NFI concept and have emphasised several components underpinning this concept. Therefore,

our results contrast the idea of providing a closed definition of NFI. Instead, an open definition can fit its current understanding and be enriched with the contribution of several parties. Accordingly, preparers, assurance providers and scholars need to take part in this process actively, to foster continuous engagement and dialogue with all the stakeholders. Thus, the different interpretations and perceptions of NFI can start to adapt the definition to the various emerging non-financial issues, thus converging toward a generally accepted definition of NFI over time.

#### 4.3 Research implications and limitations

This study has three main implications for research on NFI. First, it extends the literature on this topic by providing new insights to explain the heterogeneity of the NFI definition (Stolowy and Paugam, 2018). Prior research had already shown the divergences in defining NFI (Erkens *et al.*, 2015; Haller *et al.*, 2017). By using different research methods, our study confirms and enriches this evidence by focusing on the scholars' perceptions of the term NFI. Secondly, it contributes to the emerging debate on the meaning of NFI by conceptualising this term as a *genus* and its underpinning topics that are commonly used by academics (i.e. CSR, ESG information, etc.), as *species*. We have demonstrated that, even though creating a shared definition is not easy, there is a common understanding that NFI refers to non-accounting information. Thirdly, we propose three approaches to creating a common meaning of NFI. According to many authors (Tangen, 2005; Kirk, 2006; Haller *et al.*, 2017), a shared vocabulary and grammar are helpful to ensure a rigorous development of knowledge within the academic research. Therefore, we advocate that policymakers, regulators, practitioners and academics need to actively foster this process to reduce the heterogeneity in the definition of NFI.

The limitation of this study lies in the validity of the literature review results over time. Therefore, different results can be obtained if the research is replicated in different periods or using different databases. Furthermore, the questionnaire survey is limited to a sample of Italian scholars; thus, the results may be influenced by the cultural and social context of the respondents interviewed (Bruffee, 1986). Interviews are anchored to their context and therefore, future research can extend our survey by enquiring on other national and cultural contexts. The review can be enlarged by considering other databases, and the survey can also be extended to other important actors (i.e. consultants, preparers and assurance providers).

#### Note

1. The 26 scientific journals in which definitions of NFI have been identified are as follows: *Accounting Auditing and Accountability Journal*; *Accounting Horizons*; *Accounting in Europe*; *California Management Review*; *Comptabilite Controle Audit*; *EAM: Economie A Management*; *Corporate Governance (Bingley)*; *European Accounting Review*; *European Company and Financial Law Review*; *International Journal of Accounting*; *International Journal of Financial Research*; *Journal of Accounting Education*; *Journal of Applied Business Research*; *Journal of Intellectual Capital*; *Journal of International Financial Management and Accounting*; *Journal of International Management*; *Journal of Knowledge Management*; *Journal of the Operational Research Society*; *Journal Pengurusan*; *Management Research News*; *Managerial Auditing Journal*; *Meditari Accountancy Research*; *Revista De Contabilidad*; *Southern African Business Review*; *Sustainability Accounting, Management and Policy Journal*; *Sustainability*.

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**Corresponding author**

Lara Tarquinio can be contacted at: [lara.tarquinio@unich.it](mailto:lara.tarquinio@unich.it)