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The "trilemma" of non-financial reporting and its pitfalls

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Abstract
This research aims to show that the non-financial reporting tool collides with nexus of constraints which we will qualify as a "trilemma": (1) the constraint linked to the complexity, the irreducibility and the scalability of corporate social responsibility (2) the constraint linked to inherent stakes of non-financial reporting (3) the constraint linked to company expectations. The inscription of the tool within the nexus of constraints can be more or less effective, depending on how the points of convergence or friction are managed between the different constraints. In this way, three categories of possible pitfalls appear. Idealistic reporting, lay reporting or technical reporting. To conclude we discuss the possibility that Integrated Reporting <IR> can be an "*optimal*" solution between these pitfalls and the limits of this possibility.

Keywords Non-financial reporting · Complexity · Stakeholder-agency theory · Management tools · Organizational learning · CSR · Integrated Reporting

1 Introduction

In Europe, the 2014/95/EU Directive as regards disclosure of non-financial and diversity information entered into force on the 6th December 2014. Member states of European Union (EU) shall make the transposition before 2017 and companies concerned will start to adapt reporting in the year 2018. Like this Directive, many countries around the world progressively adopt regulations which compel companies to report on their social and environmental practices through non-financial reporting.

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Even though companies are quite in advance in terms of CSR and non-financial reporting they face many difficulties concerning the elaboration, the evolution and the sustainability of their reporting tools (Baret and Helfrich 2016). This paradox is even more interesting since the indicators imposed by the EU Directive or national laws are not new to many companies; some had already integrated them into their non-financial reporting or sustainable communication and that the new constraints included in the EU Directive were finally relatively limited. Nevertheless, experienced companies with the non-financial reporting tool already face difficulties. It is therefore obvious that a relevant deployment of this tool will not be easy for most companies. This is the object of this research.

From an empirical perspective, the aim of this research is to describe the main pitfalls a company wishing to set up a non-financial reporting may face. Many good practices are identified by companies. Yet, they solely focus on one of the stakes of reporting (to reduce the asymmetry of information, to reflect the complexity of the object «CSR», to contribute to the organisational learning process, etc.). This focalisation is usually made at expense of other stakes, offering no general view. The risk is then to get trapped in one of the form of pitfalls we have identified (idealistic, lay or technical). The final empirical aim of this research is to present the three main categories of stakes of non-financial reporting. The simultaneous pursuit of these three categories constitutes what we call a "trilemma". Hence, the identification of this "trilemma" offers to the companies to set a course toward what we define as: the optimal reporting.

From a theoretical perspective, the aim of this research is to demonstrate the necessity of a joint mobilisation of several theoretical fields, necessary condition, from our point of view, in order to deal with the three main categories of stakes of non-financial reporting:

1. Complexity, irreducibility and the scalability of CSR. The help of the literature following Simon's work (1962), Langlois (2002) allows us to qualify the complexity of CSR and therefore of its reporting. In return, this qualification illustrates the different dimensions of this theoretical frame.
2. The stakes of the non-financial reporting process. The extensive range of literature which comes from the problem of asymmetry of information (Akerlof 1970)—and of the resulting principal-agent problem (Jensen and Meckling 1976; Freeman 1984; Hill and Jones 1992)—is originally highlighted with the use of the conventions theory (Lewis 1969). In fact, the first allows the description of the situation the reporting is supposed to change; the second allows to describe the conditions under which this could be standardised and become legitimate.
3. Company expectations. Here it is a question of approaching, in an original way, the non-financial reporting as a management tool (Grimand 2012; Aggeri and Labbatut 2010). This latter must be at the service of the organisational learning of CSR (Argyris and Schön 1978; Senge 1990; Wood 1991) in a highly changing context where the company must seize, use and stabilise its reporting. This will be studied through the prism of the literature about organisational routines (Becker 2010) and evolutionist perspective (Nelson and Winter 1982).

These are the reasons why this research implies simultaneously mobilizing several theoretical frames. In doing so, we put our work in line with the old emergentist tradition of the philosophy of mind, initiated by Mill (1862) and Lewes (1874). It rejects the reductionist approaches to address the complexity in a holistic perspective where the whole can't be reduced simply to the sum of the parts. Therefore, the use of additional perspectives, implying the resort to different theoretical frames, appears to be a necessity.

In order to do so, we will show that the difficulties of implementing non-financial reporting within companies derive from the fact that the implementation of the reporting tool finds itself at the conjunction of multiple contradictory constraints.

Our article is divided into three steps. The first consists of presenting the content of the trilemma by mobilising the appropriate theories: (1) the constraint linked to the complexity, the irreducibility and the scalability of CSR (Part 2.); (2) the constraint linked to inherent stakes of non-financial reporting (Part 3.); (3) the constraint linked to company expectations (Part 4.). The second step consists of analysing the pitfalls associated with the different strategies of non-financial reporting the companies can opt for. We will see that these pitfalls result from points of convergence and friction inherent of this set of constraints within which the tool must be part of (Part 5.). The third step discusses the possibility of outlining "optimal" reporting, an ideal pattern on the conciliation of constraints that integrated reporting <IR> may allow us to reach. Finally, we will analyse how <IR> helps in removing some of these contradictions but preserves certain limits.

2 The set of obligations linked to complexity, irreducibility and scalability of CSR

Straight away, trying to assess CSR through (a) non-financial reporting, leads to a first level of difficulty. The latter is linked to the very nature of the "object CSR": (1) its inherent complexity, (2) the impossibility of reducing it to measurable indicators and (3) its ever changing context.

2.1 CSR as a complex socio-cognitive network

A responsible approach involves including a wide and heterogeneous set of stakeholders (Jones 1980; Freeman and Reed 1983; Freeman 1984), this concept being itself perceived according to multiple acceptations. (Philips et al. 2003; Gond and Mercier 2006). Each one moreover brings legitimate expectations toward the meaning of the original definition of sustainable development (WCED 1987). If these stakeholders constantly interact in multiple ways, their expectations can finally appear contradictory and refer to different expectations and perspectives in time. Henceforth, we can consider that this disparate set of participants and thematics constitutes a "*complex socio-cognitive network*" in Ancori's meaning (2008) following Simon's works (1962). Here it is emphasized that a "*complex socio-cognitive* *network"* is a generalisation of Simon's model to the cognitive and social interactions between actors, even between humans and non-humans.[1]

In fact, Simon defines a complex system in this way: "Roughly, by a complex system I mean one made up of a large number of parts that interact in a nonsimple way. In such systems, the whole is more than the sum of the parts, not in an ultimate, metaphysical sense, but in the important pragmatic sense that, given the properties of the parts and the laws of their interaction, it is not a trivial matter to infer the properties of the whole." (Simon 1962, p. 468).

From this rich definition, we can draw a typology of the complexity in three points which allow us to give to CSR the qualification of a complex subject because it combines simultaneously those three points:[2]

1. The complexity of a system lies in the presence of various participants and topics (parts of the system). As far as CSR is concerned, this property takes shape in the heterogeneity of the stakeholders, whose classifications and hierarchizations are hard to establish (Mitchell et al. 1997). It also takes shape through the diversity of topics brought by CSR, such as the identified policy areas within the ISO 26000 standard.
2. The complexity lies in the diversity of interactions between the participants. Developments around stakeholder theory (Mitchell et al. 1997; Frooman 1999) or parallel developments of the stakeholder agency theory (Hill and Jones 1992) illustrate this regarding CSR. In fact, through the topics it addresses, the CSR leads the company to interact differentially with the stake holders. Some relationships will be formal, even contractual (employment contract), others might be more informal (dialog), even implicit (corporate culture). They might be direct or indirect (dialog with environmental NGO).
3. The heart of Simon's definition grants to a complex system the holistic property (i.e. a whole which would be more complex than the sum of the parts). In fact, this property characterizes the phenomenon of emergence,[3] as defined in the

[1] This approach is a synthesis of various developments in social sciences which form complex systems (Simon 1962), which are here supplemented with approaches of hybridity of the *Actor-Network Theory* (Callon 1986) or *modularity in product, organization and cognition* (Langlois 2002; Cohendet et al. 2005). This synthesis enables us to justify our use of complex systems as a theoretical analysis grid for CSR and to notice the cognitive and institutional characteristics that make up its complexity.

[2] Individually, each point is not a sufficient condition to qualify the complexity according to Simon (1962). In fact, there are examples of systems with few elements. Equally, there is a literature about complexity that doesn't consider the number of elements as a determining factor (Devaney 1992) rather focusing on interactions (Von Bertalanffy 1969).

[3] Emergentism is a branch of the philosophy of mind which arises from the epistemological reflections at the heart of the work of Mill (1862) and Lewes (1874). This branch analyses notably the emergent properties of a system as opposed to the resultant properties of parts of the system (Kim 1999). The opposition between emerging and resulting comes from Lewes, whereas Mill opposes heteropathic laws to homopathic laws without using the terms of emergence or resulting. Even though the first reflections of the emergentist branch were about natural, sciences and in opposition to approaches that were purely reductionist about knowledge, they also struck a chord with social sciences. In management sciences, this approach is mobilized by researches on the organizational process (Sanchez and Mahoney 1996). They stress that the complexity of technical objects (Simon 1962) leads the firms that produce them to design complex organizational processes. Thus, management sciences are remobilizing emergentist approaches

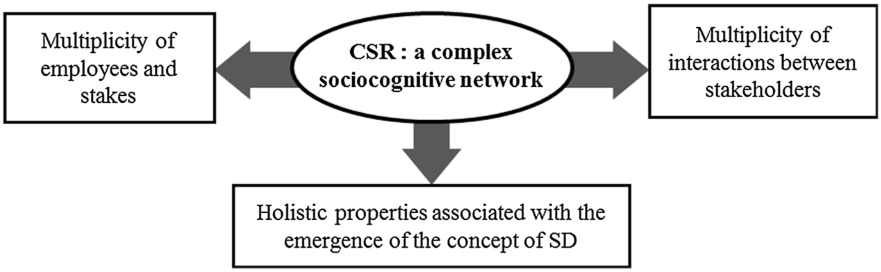

Fig. 1 CSR as a complex socio-cognitive network

philosophy of mind, which also materializes around the concept of sustainable development (debates about perception of sustainability: different time horizons, importance given to different environmental, social and societal stakes) or CSR (holistic approach of CSR in the ISO 26000 standard).

These three aspects of CSR (linked to the multiple thematics addressed and to the heterogeneity, as much cognitive as institutional, of the participants involved) clearly show that the participants, the topics and the institutions involved in CSR constitute a complex socio-cognitive system (Ancori 2008) (cf. Fig. 1). Here appears a first element of difficulty, since it will be difficult for a reporting tool to translate the subtleties of such a complex socio-cognitive system. In fact, let us recall that this tool is targeted to codify a part of this system in information and to ensure its transmission to the participants of this system, hence contributing to the principles of accountability and transparency to the stakeholders, according to a logic of reduction of information asymmetry (Akerlof 1970).

2.2 The irreducible part of the qualitative information

Characteristics of CSR complexity have consequences on the very nature of the process of reporting. Traditionally, this latter is made thanks to a set of quantitative indicators. In the case of non-financial reporting, the simplification to a purely quantitative approach is not possible anymore since one must integrate qualitative elements. These have two origins: (1) those that are impossible to quantify; (2) those too complex to be quantified.

1. First of all, we will distinguish the elements of the CSR approach which are essential to report on, but which, by nature, will never be quantifiable: statement of the company's values, the company vision, etc. These elements constitute what we

Footnote 3 (continued)
to the analysis of organizational structures. From this perspective, we can consider that a large part of the literature on innovation management is emerging science.

will name the "*irreducible part*" of the qualitative information of non-financial reporting.

2. We will then distinguish the elements of the CSR approach the company doesn't know, can't or doesn't want to quantify, such as the externalities or global performance. By fact, there are many methods of internalising externalities (contingent valuation method, revealed preferences, surrogate market methods—replacement cost method, shadow prices, surrogate market—hedonist pricing, costs of transporting, expenses of protection–, etc.). They can however appear to be complex and lengthy to implement (Vatn 2009) (contingent valuation for instance, which implies to carry out a survey with populations victim of negative) or approximative (replacement markets do not estimate global economic value: Peace and Turner 1989). This, combined with the lack of gratitude, discourages companies to try to deploy it. Likewise, there are many solutions of accounting widened to social and environmental stakes. But here again, limits are numerous: difficulties of anticipation (Gray and Bebbington 2001), lack of formalisation (Brichard 1996), multiplicity of enlisted fields of knowledge (Chan 2005), lack of consensus about their use (Alcouffe et al. 2010; Antheaume 2007; Buritt 2004; Herborn 2005), proliferation of solutions (Savall and Zardet 2013), etc. In fact, their use by companies remains marginal, even exceptional. We will then reason in terms of potentially quantifiable information, but which, in the short and medium term, remain exclusively qualitative.

As we will see (cf. Sect. 3.1), the qualitative part of information is necessary in order to avoid to irremediably reduce non-financial reporting to a "technical conception". This latter would consist in a set of relatively simple indicators[4] to assess, but wouldn't result in a global analysis of a CSR approach. Non-financial reporting would then lose a major part of its meaning to its recipients.

2.3 Dynamics of the context of non-financial reporting: a non-stop evolution

Beyond its object and nature, non-financial reporting faces a third source of complexity. This one results from an ever changing context which demands from reporting continuous readjustment. We will identify three factors explaining the constant changes of the context within which non-financial reporting falls:

1. Thanks to the improvement of scientific knowledge and development of information networks (such as internet), signs of unsustainability seem to accelerate. On the one hand, works as the one of the IPCC or many other groups of experts, raise awareness of negative externalities generated by many human activities. On the other hand, accounts of many NGOs inform stakeholders of companies better and better about perverse effects of their activities abroad, either on a social or an

[4] "Simple" in that their qualitative nature and the methods of calculation to obtain them make them "objective" in first analysis.

environmental level, including their supply chain. Non-financial reporting has to integrate this extension of the area of responsibility.

2. The acceleration of awareness of externalities generated by companies and the extension of their area of responsibility are combined with an acceleration of regulations and standards. In France, for instance, on the legislative front, following article 116 of the 2001 NRE Law, the article 225 of the "Grenelle 2″ Law whose implementing decree came into effect in 2012 compels every listed company of more than 500 employees to adjust their non-financial reporting, modified in 2017 in order to integrate the European Directive. Meanwhile, profusion of ever more accomplished and complex standards and reference guides (Global Compact, Global Reporting Initiative, OHSAS 18001, SD 21000, ISO 14000, ISO 26000…) offers as many opportunities of widening the field of non-financial reporting. With the risk of getting lost (Savall and Zardet 2013).
3. Since the 90′s, a growing number of solutions of extended accounting have been made available to companies: special "green" accounts offered by the association of chartered accountants, the System of Environmental-Economic Accounting (SEEA) proposed by the European Union in 1993; then IFRS standards… At the same time, research in management sciences are trying to elaborate methodologies which enable to include the environment within general accounting (Gray et al. 1993): environmental management accounting (Xiaomei 2004; Jasch 2003), total environmental cost (Lockhart and Taylor 2007), the *Triple Depreciation Line* method (Rambeau and Richard 2015), etc.… even to include all hidden costs (Savall and Zardet 2013). But the increase of these accounting solutions combined with their limits noted above (cf. Sect. 4) is as much a source of opportunities as complexities to serve non-financial reporting.

One then understands that a proactive company in term of CSR has to integrate these changes of stakes and associated regulations in its way of reporting. Therefore, its non-financial reporting apparatus always has to be readapted—integrate new stakes, new coercions, new measurement methods—(cf. Fig. 2).

This aspect directly contributes to the set of obligations linked to the complexity. In fact, this dynamic of stakes will characterise the environment (i.e. the context) within which the complex system evolves. Cohendet et al. (2005) mention the importance of the nature of the environment (static *vs* dynamic) on the functioning of the system, setting at the same time links with Simon's parable of the watchmakers[5] (1962, p. 470) or Mintzberg's analysis (1979) on the company (simple or complex) environment.

Finally, by combining the obligations linked to the complexity of the socio-cognitive network formed by the "subject CSR", its reporting which cannot be reduced

[5] In this parable, two watchmakers are making a watch (a complex system) with two different methods (step by step or in one piece). Both are repeatedly disturbed by phone calls and this affects in different ways the outcome of the making of the watch. For Cohendet et al. (2005), the environment in Simon's parable is illustrated by the phone calls which are going to impact the watchmakers' job.

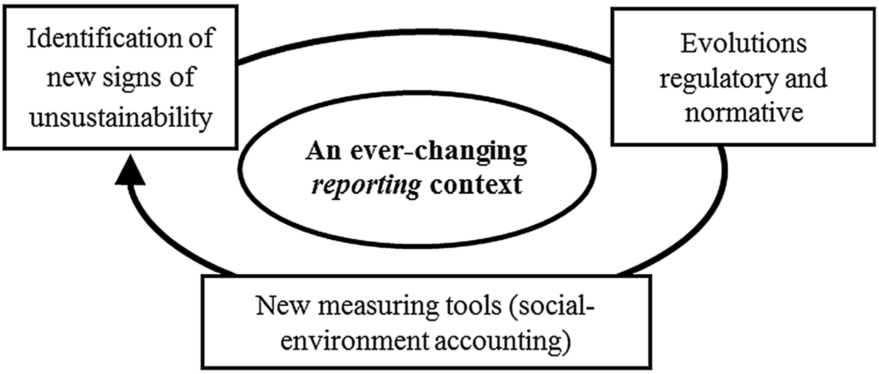

Fig. 2 The dynamics of the context of non-financial reporting: an ever-changing evolution

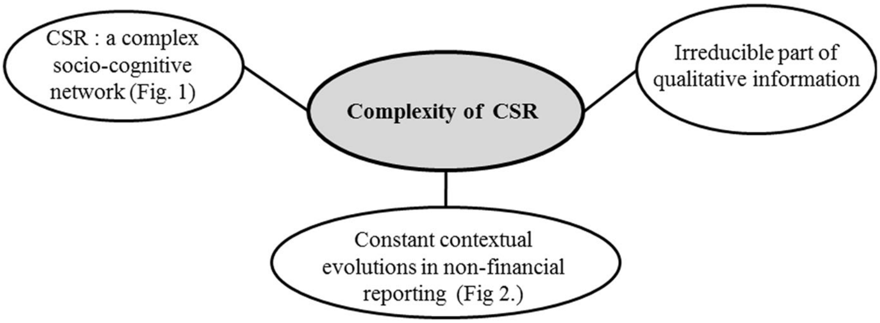

Fig. 3 The nexus of constraints linked to the complexity of CSR (as well as its irreducibility and its scalability)

to quantitative indicators and whose context is in constant evolution, a first set of obligations linked to the complexity of CSR takes shape (cf. Fig. 3).

3 The set of obligations linked to the inherent stakes of non-financial reporting

Trying to report on CSR also refers to a second level of difficulties proper to the inherent stakes of the non-financial reporting process. Here again, one can identify three groups of factors which generate this second set of obligations: (1) obligations regarding the stakes of accountability to the stakeholders, of reducing the information asymmetry; (2) the need of standardisation of non-financial reporting, to coordinate around a convention of stable reporting; (3) the legitimacy to the stakeholders that the reporting must bring to the company.

3.1 The stakes of accountability to the stakeholders

Accountability to the stakeholders mainly consists of non-financial reporting. Let us recall that the purpose of a reporting is to reduce the information asymmetry (Akerlof 1970) which exists between company managers and their shareholders ("financial" reporting) or their stakeholders ("non-financial" reporting). This can be understood through the prism of the theory of agency (Jensen and Meckling 1976), or the stakeholder-agency theory (Hill and Jones 1992).

Let us recall that in the founding works in economics the dangers linked with a situation where ownership and management are separated are identified. Hence, Smith (1776) denounced the possible laxity of the manager.[6] Drawing out this perspective, Berle and Means (1932) emphasized a risk of monopolising of power in the company by a kind of managerial oligarchy. Via the relationship principal-agent, Jensen and Meckling (1976) clarified the nature of the conflict of interest. Basically, the capital providers (the principal) don't have time and/or the skill to manage the company on a daily basis. Consequently, they entrust this task to a manager (the agent). Hence, this latter is in charge of managing the company in the best interest of the principal (the shareholders).

Nevertheless, the agent benefits from a double information asymmetry which potentially allows him to behave in an opportunistic way to the detriment of the principal: on one hand, due to his function, he is the best informed of what really happens in the company; on the other hand, due to his skills, he is better suited to understand and analyse this information. Henceforth, if he is not controlled, the agent has free rein to use the company capital for his own purposes[7] rather than for his task (to serve the principal's interest). In this perspective, as Friedman (1970) underlined, the one and only social responsibility of the manager is to not behave in an opportunistic manner, hence to ensure his mission of maximisation of the shareholders' interest.

In order to prevent this risk of opportunism of the manager, to the detriment of the shareholders, "rules" of governance progressively emerged. They are aimed at alleviating the information asymmetry between the manager and the shareholders[8] or at reducing the divergence of opinion between the principal and the agent.[9] To the extent that it is all about protecting the shareholders' interests, we talk about a "shareholder model" (Freeman and Reed 1983; Hill and Jones 1992; Smith 2003) or "shareholder value" (Charreaux and Desbrières 2001). The financial reporting, decreed by the legislator, falls into this pattern. It compels the management to produce certified information in line with current accounting and financial standards by an independent third party body, the external auditor. Even if biases remain, the

[6] "The directors of (….) companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own" Smith (1776).

[7] This opportunistic behaviour of the manager can be carried out in a legal framework (choice of allocation of profits) or in an illegal one (abuse of corporate assets).

[8] Obligation of presentation of accounts, certified by an auditor, executive board, etc.

[9] For instance, by making the manager a shareholder with stock options.

information asymmetry about the way the company is effectively managed is hence reduced.

Berle and Means (1932) looked further by anticipating that managers had a responsibility, not only toward the shareholders, but, more broadly, toward anyone whose well-being is likely to be affected by the company activities. Hence the necessity of the emergence of a "neutral" control watching over the balance of interests of different groups of the community. Bowen (1953) delved further into this perspective, then Freeman (1984) took over and popularised the neologism of "stakeholder" created by Ansoff and Stewart.[10]

Freeman (1984) then spread the idea that the aim of the company cannot only come down to the preservation of the shareholders' interests. Hence emerges the stakeholder theory. In reality, it would be more correct to talk about the stakeholder theories. From Donaldson and Preston (1995) distinguished three versions of it: a descriptive, an instrumental and a normative one. Following Philips et al. (2003), Gond and Mercier (2006) underline that this diversity comes from the multiplicity of definitions of the concept of "stakeholders" (broad, narrow and middle acceptations…).[11] This proliferation of definitions lasted until recently, even if it seems that, with the creation of the ISO 26000 in 2010, the phenomenon tends to stabilise. Another factor explaining this diversity of stakeholder theories comes from the evolution in time of the approaches of CSR. This can be noticed since the 50′s when the interaction between economic performance and CSR started to progressively assert itself (Lee 2008)[12]; and even much earlier, by underlying the socio-historical evolutions which took place in the world, as well as the changes of the very notion of responsibility, since the late eighteenth century (Capron and Quairel-Lanoizelée 2015).

Since no "orthodox" conception (Capron and Quairel-Lanoizelée 2015) emerged in terms of CSR, that a multiplicity of definitions of the concept of "stakeholder" remain and that consequently, various "stakeholders' theories" coexist, we will adopt a "minimalist" conception of the stakeholders' theory. We will consider it as an amendment of the theory of Agency which is aimed at expanding the agent's obligations towards the principal to the entire set of stakeholders of the company (the latter being perceived in their broad acceptation, the one proposed by Freeman (1984)[13] which, from our point of view, seems to, if not reached a consensus, at least

[10] In 1963, at the Stanford Research Institute.

[11] Without being exhaustive, Gond and Mercier (2006) distinguish 13 definitions to which one can add Jones' one (1980) which inspires the definition of the European Commission of 2001.

[12] Lee (2008) identifies several long periods: the 50's–60's inspired by Bowen (1953) who focuses on "Ethic and social obligation of business"; the 70's, influenced by Wallich and Mc Gowan's works (1970) on the "Enlightened self-interest"; the 80's around Carroll's works (1979), Wartick and Cochran's (1985) or Wood's (1991) on the "corporate social performance model); and, at last, the 90's with the works of Freeman (1984), Clarkson (1995) and Hart (1997) on the "stakeholder approach and strategic management".

[13] "Any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman 1984, p. 46). However, we clearly exclude the management (chief executives) from the stakeholders of the company (contrary to Evan and Freeman 1988) because, as noted by Cazal (2011), the company would be "gutted". Moreover, put into the theoretical frame of the "extended" theory of Agency, this would imply that the agent would report to himself and govern himself partially.

constitutes a common ground). Therefore, the "shareholder model" which refers to the classical conception of the theory of Agency (Jensen and Meckling 1976) must be replaced by the "stakeholder model" (Freeman 1984) or "stakeholder value" (Charreaux and Desbrières 2001) which refers to an "extended" agency theory (Hill and Jones 1992). In this perspective, rules of governance must be adapted to protect the interest of the entire set of stakeholders, and not the only shareholders.

The obligation of non-financial reporting imposed by the European Directive and national laws takes a full part in this logical sequence. It is aimed at reducing the information asymmetry between the agent (the management of the company) and not only the principal (the shareholder), but the entire set of stakeholders of the company.

Hence, the public authority orders listed companies to report on their activities on a social and environmental level, in order for the stakeholders to be informed about the proven or potential impacts of the company activity on well-being in the short and longer term. This social and environmental reporting must deal with the entire group and be certified compliant by an independent third-party body (i.e. an independent assurance services provider (IASP)) in charge of a statutory auditing assignment dedicated to CSR.

To insure the validity of the non-financial audit of the IASP, the company must deliver a protocol document. This latter describes the methodology of the non-financial reporting adopted by the company since there are no conventions of evaluation and measure of social and environmental aspects. As a matter of fact, there are accounting and financial standards which, if they remain imperfect, have the advantage of standardising calculations from a company to another. The IASP in charge of the accounting and financial audit knows them. In terms of non-financial matters, even if the national laws (in France for example) describes the different CSR indicators, many variations in interpretation and measure are likely to last between companies. Therefore, the IASP must have a document at their disposal which allows it to understand in the most precise way the elaboration and measurement of indicators. This document must comply with the general principles which are relevance, exhaustiveness, reliability, neutrality and clarity. This is the object of the reporting protocol which is an internal document aimed at an external audit by the statutory auditor.

Of course, despite all these measures, a certain information asymmetry remains: the reporting is inevitably incomplete (even if the company does its best to elaborate its reporting in the most honest and scrupulous way, the indicators can't comprehend the whole set of non-financial aspects and the assessment of some points is still questionable), most stakeholders do not read non-financial documents, those who do not necessary have the skills to analyse them. Moreover, a good number of stakeholders do not dedicate themselves to this task of "control" because, contrary to the shareholder, in the "standard" principal-agent pattern, they don't have effective power over the manager to defend their interests. They can, of course, organise themselves in associations, rely on existing NGOs, resort to the public authorities or to the media. But this implies, beyond agency costs, costs in coordination between "weak" stakeholders, and then transaction costs (Coase 1937; Williamson 1975, 1985). In many cases, as a result of the dissemination of these weak stakeholders, the transaction costs are so high compared to the expected gains, that they deter these stakeholders to act to defend their interests.[14]

3.2 Coordination problems, reliability and standardisation of the CSR reporting

CSR reporting can be analysed as a sum of information about the responsible practices of the company the stakeholders will have to analyse in order to refine their perception[15] of that company. According to Bénabou and Tirole (2010, p. 14), the selection of the information, the improvement of the reliability in the data collection and of their ranking represent key challenges for CSR. In fact, here a coordination problem of the participants persists (companies and stakeholders) on these challenges, contrary to the rules in use between companies and financers as far as financial data is concerned. This issue is typically the core of the convention theory (Lewis 1969) and, more precisely, of the question of the conventions formation.

The question of the conventions formation has only been partially dealt with by the two strands of the convention theory (i.e. the strategic approach[16] and the interpretive approach,[17] as Ancori notes (2005). Therefore, this latter offers to refine this analysis through the complex socio-cognitive systems, by integrating the importance of collective interactions in this process. This modelling sheds light on the mechanisms used to elaborate conventions, by emphasizing the role of the participants (first adopters of local conventions), which predate the stabilisation of a more global convention. These local conventions are made by participants enjoying a cognitive proximity and, therefore, a bigger tendency to communicate. Progressively, the global convention will take shape thanks to the collective action. This kind of approach resonates in other works about the collective decision-making process, like Caillaud and Tirole's one (2007), who highlight the importance of persuasion cascade strategies in consensus building. Let us recall that the convention is intrinsically a consensus of this kind.

In the context of non-financial reporting, the local convention can take shape through the practices of certain participants who share the same approach of the

[14] Within the framework of this article, we will not look into this point which opens a new area of research: our object was simply here to highlight the limits of the impact of the non-financial reporting.

[15] Depending on the stakeholders, this perception will end by making informed choices of interactions with the company (investing, buying, supporting, etc.).

[16] The convention formation is not mentioned in the initial formalisation of the concept by Lewis (1969) even if it is present in the notion of "precedents". This notion is by the way the basis of patterns of the evolutionary game theory (ex: Young 1996) which don't overstep the frame of individual analysis. Broadly speaking, the conventions formation is formalised in evolutionary game theory on the ground of the initial state of the system and of the "critical mass" which allow to lead to the convention. This formalisation is more useful in order to "predict" the stabilisation of an equilibrium (and therefore of a stable convention) than to formalise its formation.

[17] The interpretive approach, derived from Keynes' works (1936, pp. 167 et 219) remains more centred on the importance of the collective (mimetism) in the origin of the conventions, without though analysing its determinants.

reporting (cognitive proximity). The latter then inspired[18] the formulation of the European Directive (local convention) which in turn will influence targeted companies. This process can then result in a conventional lockout in which CSR information and the form of its representation will constitute an object of common knowledge (Lewis 1969). We thus come back here to the persuasion cascade strategies described by Caillaud and Tirole (2007). The question is whether the stability of this common knowledge could 1 day equal the one reached by financial reporting. Here begins the quest of legitimacy of a standardised approach which also constitutes a question for the conventions theory.

3.3 The quest of legitimacy of non-financial reporting

Non-financial reporting suffers from a lack of legitimacy contrary to financial reporting which already benefits from a conventional statute. To build this legitimacy, non-financial reporting can structure itself by copying practices of financial reporting. In case studies Baret and Helfrich (2016) examine to what extent the reporting tool elaborated by companies can enable to fortify this process of legitimisation.

Baret and Helfrich (2016) note that in order to deal with the risk of non-reliability of its CSR reporting in their various plants, the studied companies decided to build computer-based systems of data collection and treatment of CSR information. The proposed tools modelled on the ones already used for financial data and the general spirit of this project is to place CSR reporting at the same requirement level as financial reporting. The reporting tool covers a large scope of indicators whose elaboration are defined in the document of the reporting protocol intended for the auditors. The scope of this reporting covers the indicators required by the Law (Grenelle 2 in France for social and environmental disclosure), as well as a set of indicators linked to the companies/firms/groups activities and their business sector. For example, from a technical point of view, Baret and Helfrich (2016) observed a company where the software is locked like an accounting software (restriction of rights, history of data changes, closing of books), it deals on its own the necessary conversions (ex: harmonisation of units of measurement between plants), it notifies every unusual variation of an indicator and can provide consolidated raw data by correcting the effects of variation of the company size (comparability).

This set of precautions reinforces the credibility of the non-financial reporting of those companies and sends a positive signal to the recipient stakeholders. This good practice can constitute the ground for a local convention (Ancori 2005) which can initiate, along with those of other companies, a process of legitimisation of CSR reporting. However, Baret and Helfrich (2016) notice that the software is the result of a more global project which depends on the maturity of the company as far as CSR is concerned and on its internal co-construction. These elements encourage us to examine in greater detail internal constraints of the company which will form a

[18] Some actors at the drafting of national laws law and European directive were also present in other bodies or projects in link with the CSR (ex: elaboration of ISO 26000, GRI) and have been inspired by these works to draft the text of law.

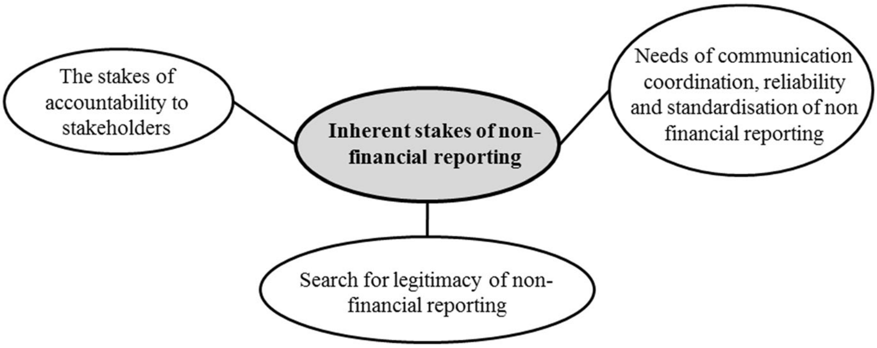

Fig. 4 The nexus of constraints linked to the inherent stakes of non-financial reporting

third set of constraints (cf. Sect. 3.) which add to the one mentioned in this section, synthetized in Fig. 4.

4 Nexus of constraints linked to company expectations

To report about CSR refers, finally, to a third level of difficulties which results from the expectations of the company itself (cf. Fig. 5). Here again, three types of goals, potentially contradictory, must be integrated: (1) the tool of non-financial reporting must participate of the learning of CSR by all employees; (2) in its conception as in its use, the tool must in the same time conciliate the specificities of the organisation and the legislator's expectations; (3) the reporting tool must deal with the dilemma between on the one hand the need of stabilising the indicators (to allow for comparability) and on the other hand the organisational routines of non-financial reporting, and finally the risk of the obsolescence of the tool.

4.1 Contribution of the reporting tool to the learning process of CSR

We have seen in previous sections that non-financial reporting must summarise a complex object –CSR-, while also responding to legal requirement of more and more accountability by the legislator and scrutinized by stakeholders towards whom the company tries to establish its credibility. The risk then is to confine itself to a reporting one might qualify as "regulatory" or "technical". It will be experienced by employees as a constraint: indicators to be documented and goals to achieve, without making sense to the members of the company.

Non-financial reporting constitutes an accounting tool in the sense that it takes part in classical acts of accounting (Grimand 2012). However, as many authors highlighted following Aggeri and Labatut (2010), beyond its efficiency—here the ability of the reporting to comply with regulatory and technical requirements—the accounting tool must have an impact on the organisational dynamics and collective action (Grimand 2012). Here, the accounting tool is designed to support the process

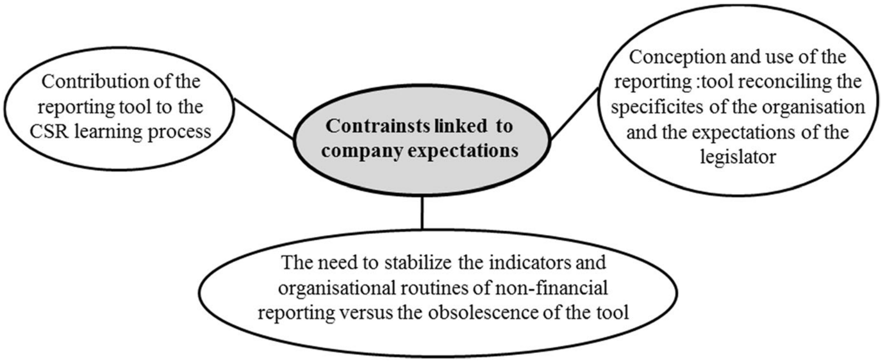

Fig. 5 The nexus of constraints linked to company expectations

of organisational change. This perspective looks all the more true to us when it comes to report on a responsible approach, even if Acquier (2007) regretted that the theoretical frames of CSR let historically little space to an analysis in terms of accounting instruments.

Implicitly or explicitly, the implementation of responsible approaches is designed to give sense to the company activity, to explain its societal contribution. Therefore, it participates in giving sense to the employees' jobs. Non-financial reporting as an accounting tool must then make sense to all of the people affected by it and, in the first place, colleagues who keep it alive, who feed it directly or indirectly. Here, the stake is that the reporting tool contributes to organisational learning (Argyris and Schön 1978) of CSR within the company (Wood 1991; Senge 1990).

On the contrary, if for those involved in the company, the tool is simply an additional "regulatory" or "technical" constraint, it won't make sense towards the employees. Not only, it will not feed the organisational learning of CSR, but it risks being counterproductive: those in charge of non-financial reporting will be isolated and CSR will be perceived negatively by other categories of staff.

The "non-financial reporting" accounting tool must consequently be built in order to make sense to the company employees to contribute to the "double loop" learning process (Wood 1991) of CSR. As a matter of fact, a "single loop" learning process of CSR is resumed to an adaptation to the context (in particular regulatory). In this case, agents will fulfil the non-financial reporting tool by obligation (legal and/or imposed by the hierarchy). The tool will then be fed in a discontinuous way, at the whim of exerted pressures to fill it. In the case of a "double-loop learning process", agents are permeated by values and stakes of CSR. It is about a deep learning process where agents have integrated the meaning of the tool and use it spontaneously.

Of course, the reporting tool alone will not enable the transition towards a logic of learning organisation (Senge 1990). But, at its level, it must contribute to spread the "CSR vision" in the company and take part in the irrigation and amplification of the CSR approach. So it implies a conception able to conciliate the external stakeholders' expectations (and in particular the legislator's one) with the specificities of the organisation…

4.2 Conception and use of the reporting tool: conciliate specificities of the organisation and legislator's expectations

As we have seen before (cf. Sect. 2.1), the primary vocation of the non-financial reporting tool is to reduce the information asymmetry between the management of the company and its stakeholders concerning the societal commitment of the firm. In Europe, regulation gradually specified the obligations of reporting so far as to constitute a very acute regulatory requirement, as formulated in the 2014/95/EU Directive relating to transparency obligations of companies in terms of social and environmental matters. Symmetrically, we have just seen (cf. Sect. 3.1) that the reporting tool must be adapted to the company specificities to make sense to employees in order to encourage a deep learning of the stakes of the responsible approach.

This brings us back to a reading grid of accounting tools proposed by Chiapello and Gilbert (2013). These authors invite us to distinguish two possible states for the accounting tools: a "circulating" state where the accounting tool acts on a large national scope, or even on an international scope or an "inscribed" state which matches with contextualised tools, proper to an organisation and its internal context.

The circulating state proceeds from an institutional approach (Schäfer 2016). Applied to our object, it allows for an understanding of the process of building of non-financial reporting as elaborated in the 2014/95/EU Directive. The circulating state helps to address the origin and the stakes of accountability to the stakeholders (i.e. how the public authority gradually considered that the information asymmetry on social and environmental practices of European listed companies was no longer acceptable within the company; on which points firms had to show transparency in line with the national culture and stakeholders' expectations). In this perspective, indicators required by the 2014/95/EU Directive, and which we must find within the non-financial reporting tool, are elaborated irrespectively of the characteristics of the company which will have to implement it.

On the contrary, the inscribed state refers to an interactional and contextual approach (Schäfer 2016). This is the phase when the company will seize the 2014/95/EU Directive requirements to build a non-financial reporting tool. It is about analysing the "how" rather than the "why": how to set up a reporting that makes sense, that contributes to a deep learning process of CSR? The "why" (i.e. to reduce the information asymmetry), addressed via the circulating state, is not the object anymore. To analyse the inscribed state means "*looking at the tool and the distinctive form it takes in its context, and connecting it to the agents who are relevant to understand what it is, those who made it and what it covers in the form where it takes place*" (translated from Chiapello and Gilbert 2013, p. 250). As Schäfer points out, "*the inscribed state refers to the implementation of the accounting tool and to its process of reception, diffusion and individual appropriation, organisational integration or reject*" (translated from Schäfer 2016, p. 125).

Through the analysis of the inscribed statute, one must then understand how the company seizes the non-financial reporting tool according to its own specificities (i.e. for it to make sense to the employees), while in the same time taking care that it delivers the legislator's expectations (whose genesis has been addressed via the study of the circulating state). But this stake of the elaboration and use of the tool must also be addressed dynamically the agents of the company need stabilisation concerning the indicators to provide while, simultaneously, the context is changing (cf. Sect. 5), implying a need of evolution of these same indicators. This is this last form of constraint we are now about to address.

4.3 Need of stabilisation of the indicators and organisational routines of CSR reporting *vs* the risk of obsolescence of the tool

The very rich developments of the literature on organisational routines[19] give us the opportunity to talk about the tensions around the stabilisation of non-financial reporting. The concept of routine must be understood here as "*a general term for all the regular and predictable patterns of behaviours*" in a company (Nelson and Winter 1982, p. 14). This generic term covers large activities and behaviours according to Nelson and Winter (1982). The authors also highlight that some routines are perfectly compatible with non-routine situations such as innovation.

These reflexions shed a light on the existence of a potential dilemma between the need of stabilisation and of "routinisation" of CSR reporting (for practicality and comparability matters) and the risk of obsolescence it might generate. We face here a classic opposition between the exploration strategy and the exploitation strategy (March 1991), within which routines take an ambiguous place.

In the frame of the non-financial reporting, the exploration strategy and the exploitation strategy are necessary. For a company, the elaboration of a reporting tool constituted an exploration phase to respond to the challenge laid down by the 2014/95/EU Directive. In the same time, this challenge has been completed thanks to this company maturity in terms of CSR, which constitutes a heuristic of innovations based on routine practices (Nelson and Winter 1982). Then, the stabilisation of the tool can create new routines, linked to its use (exploitation phase). This step depends nevertheless on the success of organisational learning around the tool and the fact that it is not rejected by the agents, on the basis of other routines already rooted in the organisation and mistreated by the tool. Finally, changing contexts of CSR and of the company will constitute compulsory points of flexibility for the tool which will have to adapt to changes in the company and to the evolutions of the nature of a non-financial reporting. It reminds us that CSR is by nature a subject favourable to exploratory strategies, for which every organisational routine is not adapted.

In the end, it is possible to synthetize this third set of constraints in the following way.

[19] For a synthesis of this literature see Becker (2010).

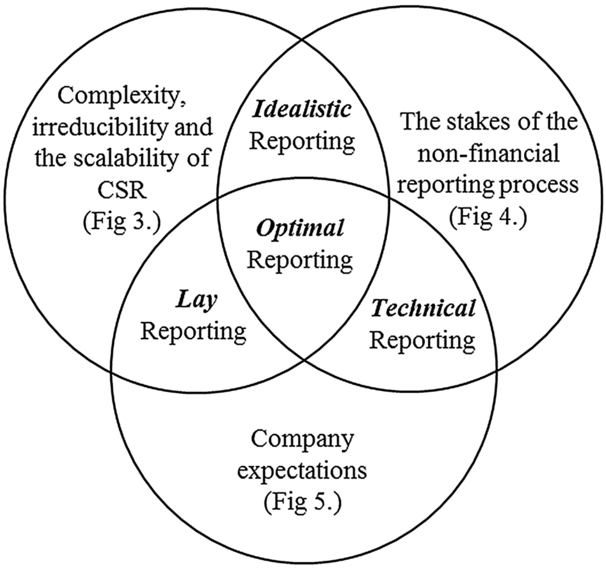

Fig. 6 The three constraints of non-financial reporting, the pitfalls and an ideal solution

5 Pitfalls of non-financial reporting in the middle of three knots of constraints

In the previous parts, we have successively identified three sets of constraints into which non-financial reporting must enter: (1) the set of constraints related to the complexity, the irreducibility and the "evolutivity" of the CSR; (2) the set of constraints related to the inherent stakes of non-financial reporting; (3) the set of constraints related to the company's expectations. The positioning of the tool within the sets of constraints can be made in a more or less efficient way, depending on the ability to deal with the points of convergence and friction between these different sets of constraints. This can be represented via a Venn diagram (cf. Fig. 6) where each set of constraints is represented by a subset. The interest of this representation lies in the zones of overlap which represent the potential pitfalls of the non-financial reporting tool. The central zone where the three subsets are overlaid represents the "solution", the "optimal" reporting which manages to conciliate contradictory constraints.

We are now about to explain each type of pitfall we have identified in the elaboration of the reporting tool. Then, as a conclusion, we will mention the optimal "solution" which constitutes the goal to reach for a company.

The strategy of the "***idealistic reporting***" tries to integrate the complexity of CSR as well as its scalable and quantitative dimensions. Equally, it complies with the stakes of the process of non-financial reporting by ensuring accountability towards the stakeholders via a standardised reporting which legitimates the company CSR approach (Michelon and Parbonetti 2012). Unfortunately, this process of elaboration of the reporting tool is not part of a co-construction within the company. It is still worked out by a group of "insiders" (generally the CSR department and/or a dedicated steering committee). It does not make sense to the other employees and so does not contribute to a deep learning process of CSR. The tool is still seen as a constraint by many agents supposed to use it. In fact, it only "exists" under the pressure of the group of insiders. This strategy is hardly bearable (tenable) in the short, middle or longer term and the tool may die progressively. Moreover, the fact of entrusting the process of reporting to a handful of insiders can illustrate the point that the CSR approach is disconnected from the real strategy of the company which is supposed to theoretically enrol all the agents.

The strategy of the "***lay reporting***" has the advantage of a good understanding of the responsible values and diffusion to the employees. In short term, this can be a means to initiate a CSR approach and its learning. It is also a strategy of reporting which can fit to small structures that want to communicate on their responsible commitment without enduring the constraints of the conventional frame designed to listed company of more than 500 employees (2014/95/EU Directive). But here is the limit of this strategy: avoiding the conventional frames by only using a not binding tool which does not take into account enough the inherent stakes of non-financial reporting, generates the risk of not fulfilling its purpose of accountability (Johanson 2008), even of promoting a kind of greenwashing. Broadly speaking, it will show itself as not structured and incomplete. In fact, it will not comply with the principles of comparability and accountability designed to reduce the information asymmetry.

The strategy of the "***technical reporting***" is perfectly in line with the legal requirements such as those included in the 2014/95/EU Directive. It offers to render a technical, rather quantitative CSR. Moreover, it gives an approach that makes the establishment of very useful organisational routines easier in order to facilitate the implementation of the tool. However, symmetrically, this approach hardly integrates the scalable characteristic of the context of the CSR and does not fit well with its qualitative aspects. Equally, the emphasis on the purely technical dimension of the tool does not encourage talks with the stakeholders (Gnan et al. 2013). For the same reason, the impact on the diffusion and learning of the CSR within the organisation is unclear.

6 Discussion: can integrated reporting <IR> be a possible path to an "*optimal reporting*"?

The "***optimal reporting***" as its name implies rises from the theoretical model ideal-type which embodies a form of perfection. It is a strategy which endeavours to reconcile the requirements of the different sets of constraints. The tool is designed to simultaneously understand:

– all the stakes of CSR, integrating (1) the complexity of the socio-cognitive system (2) the quantitative and qualitative dimensions of CSR as well as (3) the constant evolutions in the context on non-financial reporting;
– all the inherent stakes on non-financial reporting, integrating (1) the objectives of accountability to the stakeholders, (2) the needs of coordination, reliability and

standardisation of reporting, as well as (3) the objectives of legitimacy that non-financial reporting brings;
– all the expectations of the company with a non-financial reporting tool. (1) which contribute to the learning process of CSR, (2) which in the conception and use reconcile the specificities of the organisation (inscribed state) with the expectations of the legislator (circulating state), (3) that know how to combine the need of stability of the indicators and organisational routines with the risk prevention of the obsolescence of the tool.

Nowadays the integrated reporting approach <IR> [20] has emerged as a new solution of reporting for companies. Its holistic approach and its principles seem to constitute a possible development towards an "optimal" reporting. In fact, the promises of the international <IR> framework (IIRC 2013) seem to cover all the different stakes of an "optimal reporting" that we have identified. Table 1 establishes the comparison between the promises of the IIRC (2013) and our nine categories of stakes.

This questioning of the capacity of <IR> to constitute a model of integrating reporting seems to us even more justified than the links between <IR> and other frames of reference such as the GRI (comparability stakes, balance, completeness, etc.) or the European Directive ("Business Model" approach, risk approach, "complain or explain" approach etc.). This symbiosis allows all the frames of reference to constitute a coherent structure for reporting.

<IR> looks like a promising tool, but empirical studies complementary to the present one must be carried out in order to ascertain that a certain number of limits of the tool can be overstepped. We will focus on four of them:

1 Even if <IR> takes into consideration six different forms of capital (financial, manufactured, intellectual, human, social and relationship, natural) and the weight of the stakeholders, the risk capital providers remain the privileged target of this new form of reporting. This concession may be compulsory in order to go beyond the logic of the shareholders' pattern. To what extent the others stakeholders' expectancies are truly integrated though remains to be carefully examined.
2 Value creation constitutes the primary variable of determination of the materiality of the stakes. <IR> offers a wide acceptance of it which includes the value creation for the company and for the stakeholders. And here the organisation may overweight the internal value or the economic value (since it is easier to measure).
3 The 5th guiding principle, the one concerning "concision", can put the organisation in a dilemma between completeness and simplicity of the provided information. This refers to the question of the complexity of treatment of CSR.

[20] The International Integrated Reporting Council (IIRC) proposes an international framework on IR. This framework states 7 guiding principles to treat 8 content elements of IR. The IIRC defines integrated reporting (IR) as a process of communication based on Integrated Thinking of the organization which leads to produce an Integrated report. The essential concepts of this approach as based on value creation and the use of diverse capital. They allow to identify and select the relevant stakes of reporting.

Table 1 <IR> promises and the trilemma (column 2 adapted from IR 2013)

	Reporting stakes	<IR> promises (according to IIRC 2013)
1. Set of obligations linked to complexity, irreducibility and scalability of CSR (Fig. 3)	1.1. CSR as a complex socio-cognitive network	Promote a more cohesive and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors
		Has a combined emphasis on conciseness, strategic focus and future orientation, the connectivity of information and the capitals and their interdependencies
		Integrated thinking is the active consideration by an organization of the relationships between its various operating and functional units and the capitals that the organization uses or affects
	1.2. The irreducible part of the qualitative information	Both qualitative and quantitative information are necessary for an integrated report to properly represent the organization's ability to create value as each provides context for the other. Including KPIs as part of a narrative explanation can be an effective way to connect quantitative and qualitative information
	1.3. Dynamics of the context of non-financial reporting : a non-stop evolution	<IR> is consistent with numerous developments in corporate reporting taking place within national jurisdictions across the world
		No longer will an organization produce numerous, disconnected and static communications
2. Set of obligations linked to the inherent stakes of non-financial reporting (Fig. 4)	2.1. The stakes of accountability to the stakeholders	Improve quality of information Enhance accountability and stewardship for the broad base of capitals (financial, manufactured, intellectual, human, social and relationship, and natural)
		The capacity of the organization to respond to key stakeholders' legitimate needs and interests

Table 1 (continued)

	Reporting stakes	<IR> promises (according to IIRC 2013)
	2.2. Coordination problems, reliability and standardisation of the CSR reporting	Aims to increase the efficiency of the reporting process itself
		Include a small number of requirements that are to be applied before an integrated report can be said to be in accordance with the framework
		May be either a standalone report or be included as a distinguishable, prominent and accessible part of another report or communication
	2.3. The quest of legitimacy of non-financial reporting	Aims to be the corporate reporting norm
		It should include, transitionally on a comply or explain basis, a statement by those charged with governance accepting responsibility for the report
3. Nexus of constraints linked to company expectations (Fig. 5)	3.1. Contribution of the reporting tool to the learning process of CSR	Aims to accelerate individual initiatives and provide impetus to greater innovation in corporate reporting
		Emphasizes the importance of integrated thinking within the organization
	3.2. Conception and use of the reporting tool: conciliate specificities of the organisation and legislator's expectations	Integrated thinking leads to integrated decision-making and actions that consider the creation of value over the short, medium and long term
		How the organization tailors its business model and strategy to respond to its external environment and the risks and opportunities it faces
		The more that integrated thinking is embedded into an organization's activities, the more naturally will the connectivity of information flow into management reporting, analysis and decision-making

Table 1 (continued)

	Reporting stakes	<IR> promises (according to IIRC 2013)
		The capitals (…) are categorized in this Framework as financial, manufactured, intellectual, human, social and relationship, and natural capital, although organizations preparing an integrated report are not required to adopt this categorization or to structure their report along the lines of the capitals
	3.3. Need of stabilisation of the indicators and organisational routines of CSR reporting vs the risk of obsolescence of the tool	It also leads to better integration of the information systems that support internal and external reporting and communication, including preparation of the integrated report
		The intent is to strike an appropriate balance between flexibility and prescription that recognizes the wide variation in individual circumstances of different organizations while enabling a sufficient degree of comparability across organizations to meet relevant information needs

4 As any "soft law" referential, IIRC (2013) ensures to the users a certain flexibility of interpretation (no KPI, no obligation to respect the proposed framework). This flexibility is the guarantee for the organisation to fully integrate the reporting tool, but can also put it at risk of lay reporting.

Of course, optimal reporting falls within the almost unattainable ideal type. It should be seen as a model the company must try to reach. In this meaning, the <IR> can offer a relevant solution. However, as we have just seen, its implementation put at the risks highlighted by our joint mobilisation of several theoretical frames. Hence the limits of <IR> refer to the difficulties in reducing the asymmetry of information (Akerlof 1970) not only towards shareholders (Jensen and Meckling 1976), but the entire set of stakeholders (Freeman 1984; Hill and Jones 1992). They also refer to the decisions in the management of the complexity of CSR (Simon 1962; Langlois 2002; additional sources). Finally, the flexibility and the concision offered by <IR> echo the uses of management tools (Grimand 2012; Aggeri and Labbatut 2010) and of their stabilisation (Nelson and Winter 1982; Becker 2010) for the benefit of the learning process (Argyris and Schön 1978; Senge 1990; Wood 1991).

As an extension of this research, it would be necessary to apply our evaluation grid (the trilemma) to case studies of companies elaborating non-financial reporting and/or <IR>. It would then be interesting to lead action-research to work along with companies to reach optimal reporting and to document this process of transformation.

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