

# Visualization techniques to disclose the link between managers' remuneration and organisation's performance

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## Abstract

**Purpose** – The purpose of this paper is to investigate the relationship between the managers' remunerations and the company's performance and to propose a visualization technique so that this link can be better understood by stakeholders.

**Design/methodology/approach** – This paper presents an analysis of the compulsory and voluntary disclosure in a sample of Italian listed companies. Content analysis method is used to identify the state of the environmental and social disclosure in the reports.

**Findings** – It is argued that information on managers' remunerations and company's performance is actually provided in the available disclosure, but it is spread over several documents and this makes the understanding of the link quite difficult to stakeholders, especially to the non-expert ones.

**Research limitations/implications** – The research considers only the companies which operates in the Italian context. So the applicability of the results to other national contexts may be limited. Moreover, the study does not consider the voluntary disclosures reported in various communication tools (press releases, web sites, etc.). Further research could investigate the link between managers' remunerations and corporate performances in different countries and analyze different kind of communication tools.

**Practical implications** – The paper highlights the need to build a visual representation able to collect and link to each other this kind of information. Rather than disclosing information through the current practices, companies are invited to adopt a clearer approach in order to enhance the comprehensibility of the disclosure to stakeholders.

**Social implications** - It is argued that the map can support the decision making process of potential investors as well as enable the minority shareholders to use the defensive tools provided by the law.

**Originality/value** – The paper openly questions the link between the managers' remunerations and the company's performance by proposing a tool which is potentially able to align the company's disclosure to the stakeholders' information needs.

**Paper type** – Research paper

**Keywords:** managers; remunerations; economic, social and environmental performance; social reporting; visualization techniques.

## 1. Introduction

*“Managers should acknowledge the potential conflicts between (a) their own role as corporate stakeholders, and (b) their legal and moral responsibilities for the interests of all stakeholders, and should address such conflicts through open communication, appropriate reporting and incentive systems and, where necessary, third party review.”*

CLARKSON, 1999

Attention and pressure placed upon corporations to identify, manage and respond to performance perceptions of individuals or groups, whose support is critical to the organisation’s long term success, are rising.

On the one hand, managers need accountability mechanisms able to recognize stewardship for the resources entrusted to it (Gray and Guthrie, 2007, p. 91) and to demonstrate and raise the trustworthiness as a part of a reputation building process (Owen et al., 2001). On the other hand, the combination of quantitative and qualitative financial and non-financial information has to be able to satisfy stakeholders’ needs to assess whether the managers’ entity is socially, financially and environmentally responsible (Gray and Guthrie, 2007, p. 23).

In such a context, analysing the link - between managers’ incentive systems and the economic, social and environmental performance of the corporation - is very relevant to assess the transparency on manager’ behaviours. For this reason, this paper aims to discuss the understandability of disclosures on this topic, recorded in financial, social and environmental reporting.

In this study, we seek to determine which voluntary and compulsory information is disclosed, according to national and international standards and whether there are significant differences in remuneration/performance reporting adopted by Italian listed companies.

Through an analysis of compulsory and voluntary reports, we found that information on the managers’ remunerations and the company’s overall performance are currently provided in the available disclosure.

However, reports do not communicate it so clearly, avoiding, as a consequence, to reach a high degree of comprehensibility. This potentially entails a barrier for non-expert stakeholders who try to understand the link between these two topics as well as identifying potential conflicts of interest. For these reasons, we propose a map to appropriate reporting of understandable information about legal and moral responsibilities for the interests of all stakeholders.

To address the relationship between the managers’ remuneration and the company’s performance, this paper is presented in a further four sections. In section 2, a discussion of the managers’ legal and moral obligations and the resulting opportunities of reporting is provided as well as a critique of the current state of reporting practices is expressed. In section 3, the empirical evidence from the analysis of the compulsory and voluntary disclosure in a sample of Italian listed companies is showed. This is followed in section 4 with a proposal of a visualization technique which can potentially make the link clearer to the stakeholders, especially to the non-expert ones. Section 5 presents the conclusion by showing the main implications of the results for future research aimed at further investigating the link between managers’ remunerations and company’s performances.

## 2. Managers’ legal and moral obligations: the opportunities of reporting

The identification of an organization’s responsibilities hides two main sets of considerations. On one hand, it is necessary to consider that the responsibilities change with time and place; on the other hand, it should ask about who determines such responsibilities.

The first assumption is based on the dynamic and changing nature of responsibilities, which are originated by both the personal individual conditions and by the features of the company’s system. The balances between the subjects and the regulatory, civil and environmental conditions, in which they operate, change in different periods and from place to place.

The second issue concerns the assumption that, in a system, a contract is always fulfilled, often unwritten and not explicit, from which the responsibilities are derived (Gray et al., 1987, p. 2). There is the need to determine who is “*the principal*” and who is “*the agent*” of the contract in order to determine rights and duties. The principal is the one who provides the instructions to the agent about actions to follow, giving in exchange rewards (usually monetary) and power on the necessary resources to implement them. So the agent is responsible for the action itself and he has the responsibility to report such acts.

The typical case is the legal obligation derived from the relationship between a company’s managers with the shareholders of such company. This relationship gives rise to a series of actions, subjected to payment, on the basis of a contract with the shareholder and the manager reports his actions in the financial statements. Such a relationship could create potential conflicts of interest when one of the parties has influence over the operating policies of the other.

The possibility of changing the course of wealth entails the opportunity to take advances and to obtain personal gains at the cost of other subjects involved in the system without influence in group decisions (Johnson et al., 2000). Indeed, controlling shareholders and insiders, like managers, with opportunistic purposes and with the power to decide in the companies where they work can undertake operations to obtain personal benefits to the other shareholders’ cost. In this context, the agency costs theory examined by Berle and Means (1932) and Jensen and Meckling (1976) describes the agency conflict between manager and shareholders (Anglo-Saxon model) as the manager’s tendency to expropriate the resources of the company for personal use (Morck and Yeung, 2003).

The relationships so organized are only a small part of the ones that a company puts in place operating as a social institution and a manifestation of human action. In fact, as McGuire argued, “the corporation has not only economic and legal obligations, but also certain responsibilities to society which extend beyond these obligations” (1963, p. 144). Then, a broad range of stakeholders (suppliers, customers, employees, shareholders and the local community, as well as management in its role of agent of these groups) justifies the existence of the corporation and helps in defining both corporation rights and responsibilities to parties other than itself (as a legal entity) and those to whom it acknowledges being responsible (Donaldson, 1982). All of these stakeholders have a legitimate interest or claim on organisation’s activities.

Drawing from these considerations, managers’ responsibility is not only to shareholders but also to “[...] any individual or group who can affect or is affected by the actions, decisions, policies, or goals of the organisations” (Carrol, 2007, p. 67). Accordingly, they must develop a relationship of trust with a wide range of stakeholders, adopting processes and behaviors that respect legal obligations (as a result of a formal contract with their own company) and moral obligations derived from the “social contract” between entities and society.

According to Mathews (1984), a company’s responses to its perceived social obligations are communicated through its action (or inaction), but also its public statements.

Public statements are mainly annual reports, in which financial information is disclosed, in accordance with compulsory standards and regulations. The data which is included in the calculations and presentation of this kind of statement (i.e.: assets, liabilities, revenues and expenses) could provide a partial view of the status of the enterprise at a point in time, ignoring how the result of economic activity has been achieved (Gray, 2006). Moreover, the annual report “may result in a somewhat incomplete picture of disclosure practices” (Roberts, 1991, p. 63) and risk to underestimate the volume of Corporate Social Reporting (CSR) practices (Unermann, 2000).

For these reasons, an extension of disclosures into non-traditional areas such as “providing information about employees, products, community service and the prevention or reduction of pollution” (Mathews and Perera, 1995, p. 364) has to be considered by stakeholders in order to assess whether the entity is socially, financially and environmentally responsible.

Therefore, if the annual report has to collect and report economic-financial information, social accounting reports could increase accountability and transparency of the company’s activities (see

for example, Gray et al., 1996; Mio, 2010; Manetti, 2011; Hassan and Ibrahim, 2012). The CSR has the potential of being “the instrument par excellence for managing stakeholder relations. [...]. As such, it is a concrete manifestation of a company’s commitment to transparency” (Kaptein, 2007, p. 73). Social accounting issues, in fact, “include employees and product related matters and externalities (market failures) and the environment” (Mathews, 1993, p. viii).

As confirmed by Gordon, “to ensure the social contract is met, society needs social accounting reports in much the same way that capital markets require the financial information supplied by the financial accounting system” (2007, p. 23).

Social accounting implicates the measurement of the impact of an organization’s activities on the social environment within it operates, through the preparation and publication of social accounts that range from financial information to “a combination of quantified non-financial information and descriptive, non-quantified information” (Gray, 2000, p. 250).

Previous studies have shown that important variables that could influence the level of social disclosures appear to be: corporate size (Cowen et al., 1987; Adams et al., 1998), corporate age (Roberts, 1992), management decision horizons (Trotman and Bradley, 1981) and the country of origin of a company (Trotman and Bradley, 1981; Cowen et al., 1987; Guthrie and Parker, 1990; Roberts, 1991; Adams et al., 1998). Other scholars found that a social and political context may constitute an influencing factor in shaping social and environmental disclosures (Burchell, Clubb et al. 1985; Adams and Harte, 1998) as well as corporate culture (Adams, 2002) and ethical relativism (Lewis and Unerman, 1999).

There is another part of the research that provides evidence that social disclosures are motivated by a desire, by management, to legitimize various aspects of their organizations and investigates what motivates managers to reveal information about it (Guthrie and Parker, 1989; Patten, 1992; Roberts, 1992; Adams et al., 1998; Deegan, 2002). In particular, Freedman and Stagliano argued that “Social disclosure, for the most part, is a function of the attitude of top management toward its stakeholders. Whether there is an economic motivation for the disclosure... a reaction to user needs... or a political motivation... is probably a consequence of each management’s particular perception of the world it faces.” (1992, p. 113).

Thus, on the one hand, managers have to report to shareholders their actions and to demonstrate the achievement of business objectives, disclosing economic results on the financial statement. This allows them to receive a remuneration which is related to the attained performance. On the other hand, managers are stakeholders of the corporation (as employees) and are interested in the environmental, social and economic impact of business activities; they are part of the society and this determines moral obligations. Moreover, often, managers have the strategic responsibility. So there should be a balance between individual goals and organizational targets. However, the role of agent and stakeholder could create conflict in the decision-making process, and, as a consequence, in the achievement of business performance. “[...] *open communication, appropriate reporting and, where necessary, third party review*” (Clarkson, 1999) should address such conflicts.

For these reasons, the analysis of financial information about remunerations (included on the annual report) and its link with performances could constitute a possible way to address transparency about managers’ behaviours (Rodriguez and Seabra, 2011). In addition, social reports have to be considered to assess the same link with, not only financial, but also environmental and social performance. So the information on managers’ remuneration and its link with the company’s performance can hide potential conflicts of interests. Managers’ remunerations, in fact, should be consistent with the company’s performance. But the presence of this kind of information might not be sufficient to assess whether corporations (and so managers who participate in the decision-making process) are socially, financially and environmentally responsible. Delving into communication, in fact, opens the consideration to two main principles of rational communication: comprehensibility and appropriateness (Habermas, 1990). The respect of the same principles is also underlined in regard to CSR; in fact, the qualitative characteristics of a report should be relevance, completeness, comparability, timeliness, reliability, directness and comprehensibility (Gray et al.,

1987). The consideration of these aspects involves, operatively, the observance/compliance of the following propositions:

*“The report, in its choice of data, emphasis, method of presentation, and availability, should provide information directly relevant to its objectives and in particular to the objectives it holds for the interest groups to whom it is directed. [...]. The report should present direct, raw (unmanipulated) data that can be understood by a non-expert undertaking a careful and intelligent reading of the report.”*(Gray et al., 1987, p. 83-85)

Starting from the last consideration, the present study seeks to highlight the understandability of the disclosure of the information for a non- expert reader.

### 3. Empirical analysis in the Italian market: the link between remuneration and economic, social and environmental performance.

#### Sample

The sample is selected considering the listed companies in the Italian market (using the “Datastream” database) without including the financial companies with sic codes from 6000 to 6999. We do not include also companies for which the sic codes were not available. Then, the final list of 215 listed companies in the Italian market in 2011 is obtained by matching the listing date and eventual delisting date, excluding also the dead ones. At this point we look for the social reports (as well as the sustainability report, environmental report or similar disclosures reported in a table or pictures) in each company’s website finding only 31 documents, which we use for the analysis. In particular, the exploration proceeded as follows:

- searching for the name of the company (included in the sample) using internet search tools;
- discrimination of available websites, choosing the official company site (most immediate);
- overview of the company home page and the main categories of information (which are available on toolbars or page forefront);
- analysis of subcategories (brought back in cascade menu connected to main categories or new windows);
- connection to others links, choosing those which contain meaningful key words, functional to verify the availability of the report.

#### Object of empirical analysis: compulsory and voluntary information

The first step is to analyse information on managers’ remuneration in compulsory documents in the Italian context (financial statement and reports on remuneration) required by national and international standards. The international standards of reference are the International Accounting Standards (IAS). In particular, the attention is on IAS 24 which includes the definition of key management (useful to address our research).

Key management personnel are considered as people who have the authority and the responsibility for planning, directing and controlling the activities of the entity including any director (whether executive or otherwise) of the entity (IAS 24).

Looking at compulsory information about key management remunerations and the link between that and performance - in case of Italian companies with shares listed on regulated markets in Italy or in any other country in the EU and Italian companies with shares widely distributed among the public - we consider IAS, Consob resolutions (Italian Securities Authority) and TUF (Consolidated Law on Finance). As for the IAS, in general, some compulsory information has to be disclosed in order to understand the potential effects that a relationship with a related party has in the financial statement of an entity: the amount of the transactions; the amount of the outstanding balances, their terms and conditions, the nature of the consideration set for settlement and details of any guarantee given or received; provisions for doubtful debts related to amounts included in the outstanding balances, and the expenses recognized during the year, relating to bad or doubtful debts due from related parties (IAS 24, paragraph 17). For the key management personnel of the entity or its dominant, considered as an entity’s related party, the information required has to be provided separately. Moreover, for their particular position and necessity of transparency, such IAS establishes that in the financial statement an entity has also to disclose information of remuneration as the following schedule form shows (IAS 24, par.16).

Example of schedule form about remuneration in total of Key management

Short-term employee benefits	Post-employment benefits	Other long-term benefits	Termination benefits	Share-based payment	Total amount of key management remuneration*

\*In a group, the information of key managers’ remuneration is for the managers of the entity which draws up the financial statement and also for the entity’s subsidiaries’ managers.

The first three benefits could be cash or other kinds of payment.

For the stability of the financial market, national standards require other specific information which must be approved by ordinary meeting by the Italian Legislative Decree 259/2010 based on the recommendations of European Commission 2004/913/EC and 2009/385/EC. In particular, the Remuneration statement required by the article 123 *ter* of the TUF (implemented by Consob with the resolution n.18049 of 23<sup>rd</sup> December 2011) must be divided into two sections. The first section is about the company's policy on the remuneration of the members of the directors board, general managers and managers with strategic responsibilities (referred to at least the next year), as well as the explanations of the procedures used for the adoption and implementation of this policy. Then, in the second section, a representation of each component of the remuneration is provided for each member of the administrative and control board, general managers and, in aggregate form, for the key management personnel. Moreover, this second section highlights the consistency with the company's policy on remuneration approved during the year and the previous ones. Then, it shows analytically the compensation paid during the reporting period and the previous years for any reason and in any form by the Company and by its subsidiaries or associates, indicating the possible components of these fees and possibly indicating an estimated value for the components that cannot be objectively quantified during the period. In addition to the remuneration statement on the website of the listed companies, there is a document containing information related to financial instruments of such company held by the corporate members (required also by Art. 114-*bis* TUF).

In order to analyse the social accounting reports, the attention is based on the Global Reporting Initiative (GRI) standards, which develop a broadly-based triple-bottom line approach. In particular, “the GRI reflects current practices where environmental data is much more readily disclosed than other forms of information” (Gray, 2006, p. 807).

In GRI (version 3.1), in the governance session, several indicators aim to underline the transparency policies of corporate boards. To reach the research objective the indicator 4.5 is considered:

*“linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization’s performance (including social and environmental, performance)”.*

#### Findings: describing the actual situation of compulsory and voluntary information

Content analysis method is used to identify the state of environmental and social disclosure in the reports. Content analysis is defined as “a research technique for making replicable and valid inferences from data to their context” (Krippendorff, 1980). Content analysis is a method of codifying text or content of a piece of writing into various groups or categories depending on selected criteria (Weber, 1988).

Starting from the requirements illustrated in the paragraph above, we look for each possible information given in the Report on Remuneration (as a summary of the others), able to explain the link between managers’ remunerations and business performances. Findings show that, in each document, the internal authority (the Remuneration Committee) is named and it establishes parameters (criteria) to determine the amount of remunerations (direct or indirect). Moreover, in most of the analysed reports, the nature of these parameters (i.e.: economic or financial performance indicators, market trends, the tendencies of the share market, etc...) is cited as well as the presence of a performance evaluation system, like the MBO (management by objectives) system. So, the information about the remunerations, the criteria used to estimate it and the information on different considered performances are present and it might be possible to calculate some additional indicators to assess the link between the two variables. However, the correlation with aspects (like relevant influence, ...) able to show conflicts of interests are not illustrated in a direct way: the information is often spatially distributed on several documents and a non-expert reader could find it difficult to assess the impact of these policies on the business performances and the linked managers’

remunerations. Moreover, the analyzed compulsory reports do not refer to any social and environmental disclosures.

In order to test the link between managers' remunerations and economic, social and environmental performances, we focus on voluntary information (quoted in the paragraph above) which summarizes the information disclosed in the social reporting available for our sample. All of the social reports, as well as the sustainability report, environmental report or similar disclosures reported in table or pictures, are edited according to GRI standards (version 3.1).

In particular, findings show:

	Information on managers' remunerations		Reference to nature of organization's performance (including social and environmental performance).
	Reference to Remuneration Committee	Reference to Report on Remuneration	
Company 1	yes	yes	no reference
Company 2	yes	yes	economic results of corporation and market trends
Company 3	yes	integrated in the report	corporation performance
Company 4	yes	yes	no reference
Company 5	yes	no	corporation performance
Company 6	yes	no	MBO system (including sustainability issues)
Company 7	no	no	no reference
Company 8	yes	no	economic results of corporation and stock options plan
Company 9	yes	no	corporation performance (including non economic indicators)
Company 10	no	yes	incentive system connected to economic results (in order to guarantee sustainability of the organization)
Company 11	no	yes	measurement system of results achieved by each person
Company 12	yes	no	"criteria" in general
Company 13	yes	no	no reference
Company 14	no	no	economic indicators but also environmental indicators (energy or water consumption reduction, waste production) and social indicators (able to understand the health and safety of workers) for specific managers.
Company 15	no	no	reference to annual report
Company 16	no	no	no reference
Company 17	yes	yes	no reference
Company 18	yes	yes	incentive system connected to economic results and reference to annual report
Company 19	no	integrated in the report	no reference
Company 20	no	no	no reference
Company 21	yes	no	no reference
Company 22	no	no	no reference
Company 23	no	no	no reference
Company 24	yes	yes	"criteria" in general
Company 25	yes	no	no reference
Company 26	yes	yes	managers' remuneration connected to company profitability, behaviours and professional skills; variable remuneration connected to annual and long term objectives (linked to sustainability). Reference to annual report
Company 27	no	no	no reference
Company 28	no	no	incentive system connected to company and personal objectives
Company 29	yes	yes	incentive system connected to company objectives (linked to sustainability topics) and personal activities. Reference to annual report
Company 30	yes	no	incentives connected with the position held, the importance of such position and the positioning of the individual manager into the performance/potential matrix
Company 31	no	no	no reference



The presented table underlines that social reports, in the large part of the analysed documents, refers to the “*linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization’s performance (including social and environmental performance)*”. Despite the evidence, the social accounting reports of listed companies in our sample stress only the existence of the interaction between remunerations and performance, without highlighting the univocal relation and without presenting economic, social and/or environmental indicators used to calculate managers’ incentives. The same considerations, claimed for compulsory information, are valid for the voluntary disclosure too, with a difference: in the Report on Remuneration, the nature of criteria (mainly financial/economic) and the linked parameters are reported, as required by national and international standards; in the social reports, except in one case, there is a lack of information about the typology, the nature and the target of the considered organisation’s performances.

In the end, available disclosures on financial and/or social accounting reports appear unclear to reach the comprehensibility of our research objective.

Since the state of the art in this research area is still unable to provide exhaustive answers, we need further steps aimed at understanding which types of tools are suitable in order to increase the understandability of the link between managers’ remunerations and company’s performance.

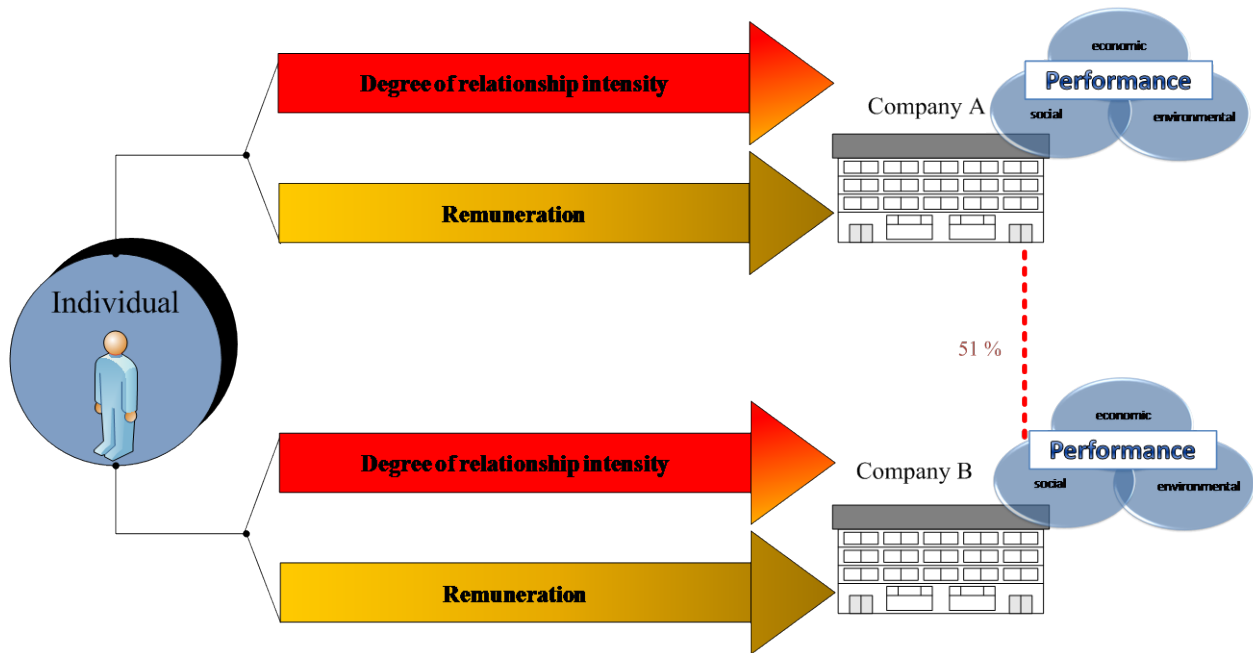
For this reason in the next paragraph we will propose a tool, i.e. a visualization technique, which can potentially fill the gap highlighted in this paragraph.

#### **4. Visualization techniques to increase the comprehensibility of the link between remuneration and economic, social and environmental performance**

Visualization techniques have been widely used in the fields of management and organization. Managers usually act in very complex contexts and one of the fundamental challenges they have to face is to filter and organize the information that flows from their environments. Graphic representations, above all in the form of maps, are particularly suitable to clarify and dominate complex and ambiguous situations (Ambrosini and Bowman, 2002, p. 22; Huff and Jenkins, 2002, p. 14; Montemari and Nielsen, 2012, p. 95). In other words, maps are able to identify and collect the main elements of a domain as well as the relationships among these elements, providing an immediate understanding of the problem or the situation under analysis. For these reasons, building a graphic representation could be very useful to put in order and examine the relationship between the managers’ remuneration and the company’s performance. As discussed above, the information on these topics is provided by the companies, but it is spread over a wide range of documents. This fragmentation makes the understanding of the link between these topics very difficult for stakeholders, especially for the non-expert ones. Building a visual representation allows us to collect and put in order the information in just one domain, making it simpler and clearer to understand for stakeholders. So making this structure more visible means giving a frame of reference for what is known to stakeholders, helping them to better perceive and understand the link between the managers’ remuneration and the company’s performance. In other words, an overall picture containing all the relevant information can support the stakeholders in identifying the potential conflicts of interest or other risky situations. A map can be defined as a network of nodes and arrows (Fiol and Huff, 1992). The nodes of the map identify:

- the main managers of the companies involved, i.e. the individuals who have a relevant influence on the decision making process of the company;
- the companies themselves and their overall performance (economic, social and environmental). The arrows detect the relationships between these two types of nodes. In particular, the arrows “discover”:
- the typology of influence that the manager wields on the company;
- the typology of remuneration that the manager receives from the company.

The thickness of the arrows identifies the strength of the influence and the amount of the retribution. This tool makes it possible to identify the most important individuals and to visualize the relationship network among them and the companies, in terms of influence and remuneration relations and their impact on the companies' performance.



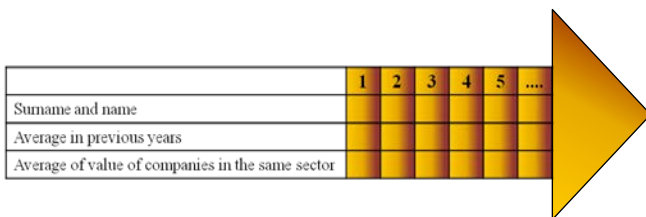
The centre of the map is the individual, with his features.

Surname and name
- Position occupied
- Period in which they occupied the position
- Expiration of contract



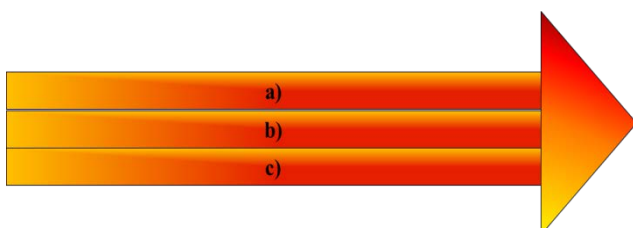
From him, two arrows start:

- a yellow one for the remunerations he gets from the company



- 1) Emolument for the position
- 2) Non-monetary benefits
- 3) Bonus and other incentives
- 4) Stock options assigned to the individual
- 5) Other remunerations

- a red one for the degree of the relationship intensity between the individual and a company



- The intensity of the relationship can be developed in three principal possible levels of the arrow:
- a) The individual is a member of the key management personnel of an entity.
  - b) The individual has control or joint control or significant influence over an entity.
  - c) The individual has a close family member who is part of the key management.

*We have to consider that:*

- “control” is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities (IAS 27);
- “joint control” is the contractually agreed sharing of control over an economic activity (IAS 31);
- “significant influence” is the power to participate in the financial and operating policy decisions of the entity, but does not mean control over those policies. It may be created by share ownership, statute or agreement (IAS 28).

*Moreover, the IAS 24, 2009 version, includes as for “close member of the family”:*

- that person’s children and spouse or domestic partner;
- children of that person’s spouse or domestic partner; and
- dependents of that person or that person’s spouse or domestic partner.

Regarding the yellow arrow, the color intensity can be weak or strong. The stronger it is, the higher is the remuneration that the manager gets from the company. As discussed above, the remuneration is made up of different elements (emolument for the position, non-monetary benefits, etc.). The cells of the arrows have to be colored depending on the amount and the typology of the compensation that the manager actually gets.

As well as the yellow arrow, the red arrow too can be thick or thin, depending on the intensity of the relationship between the manager and the company.

The thicker it is, the stronger is the influence that the manager can exercise over the company, increasing, as a consequence, the risk of potential conflicts of interest. In other words, the thickness and the color intensity of the arrow can be considered as an indicator of potential risky situations.

The arrows get to a company which can be the reporting entity or any other company of the group, so a related party of the reporting entity and indirectly related to the individual.

In order to assess the consistency between the managers’ remuneration and the company’s performance, the map should be matched with some indicators able to measure the current economic (such as ROI, EBITDA), social (i.e.: operations with significant potential or actual negative impacts on local communities; average hours of training per year per employee, by gender, and by employee category) and environmental performance (related, for example, to energy, emissions, effluents, and waste).

Each facet of the performance should be compared to the average of the performance of three previous years in order to assess the ability of the company to reach its targets from an economic, a social and an environmental perspective.

From a visualization point of view, each aspect of the past and the current performance could be represented with a couple of concentric circles. So the map contains three couples of concentric circles for each company, one for the past and the current economic performance, one for the past and the current social performance and one for the past and the current environmental performance. Comparing the size of the circles lets the reader understand the performance trend. For example, if the circle which represents the current economic performance is bigger compared to the circle which represents the past economic performance, the reader immediately understands that there has been an improvement from an economic perspective.

By way of illustration, in the map we represent only two companies. However, all the companies of the group which have a relationship with the analyzed individual have to be represented.

Moreover, in order to explicate the relationships among the different companies in the same group, we use a red dotted line coupled with the percentage of stake holding among the companies in the group (for example 51% as represented in the map). Here too, the higher is the percentage of stake holding, the thicker is the line in order to immediately point out the strength of the relationships.

## 5. Conclusion

Accountability mechanisms represent the possible communication tools able to address managers' conflicts, under legal and moral obligations determined by the agency contract with shareholders and the social contract with society. To allow these forms of communication, reports have to be compiled with comprehensive norms not only for shareholders but for a wide range of stakeholders. As argued above, reading the current listed companies annual reports and the other voluntary documents, the understanding of the real effect on performance of the actions of the board of directors and managers with strategic responsibilities is not easy.

Nevertheless the group's investors, creditors and other stakeholders have a lot of information about the managers' remunerations, the degree of the relationship intensity and the company's performance, they are not able to fully understand it as well as its correctness because information is not collected and linked to each other in a single framework. As a consequence, the potential conflicts of interests are left hidden.

We think that a suitable tool to enhance the comprehensibility of the information and the transparency of managers' behaviours is the mapping of the link between their remunerations and the economic, social and environmental performance of the entity, of the group and of those companies in the group where they can exercise influence.

We think that there is the necessity to integrate and link to each other the different compulsory and voluntary information disclosed in order to increase the transparency and to understand the impact of the remuneration on performance and vice versa.

To communicate relationships and data in an understandable and functional way, finalizing the information in a map which summarizes and simplifies the reality could protect all the stakeholders and preserve the companies' values. On the one hand, the map displaying the intensity through the arrows' colours - and with the central nodes - immediately let the minority shareholders to assess the potential situation of interests' conflict and its implication. In turn, this increased awareness can enable the minority shareholders to use the defensive tools provided by the law (for responsibility action against administrators, auditors and general directors; for reporting to a board of auditors and to a tribunal; and for convening a shareholders meeting). From the other hand, the map can support the decision making process of potential investors. In other words, information provided by the map can help the investors to choose if and how to invest in a certain company.

The study presents some limitations. The first one is related to this Italian sample. The research considers only the companies which operate in the Italian context. So the applicability of the results to other national contexts may be limited. Moreover, the study does not consider the integrative regulations and voluntary disclosures reported in various communication tools (press releases, web sites, etc.). Further research could address and investigate the link between managers' remunerations and corporate performances (economic, social and environmental) in a spatial dimension (different countries as well as different kind of communication tools), to develop a visualization technique applicable in a univocal way and understandable to a non-expert reader.

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